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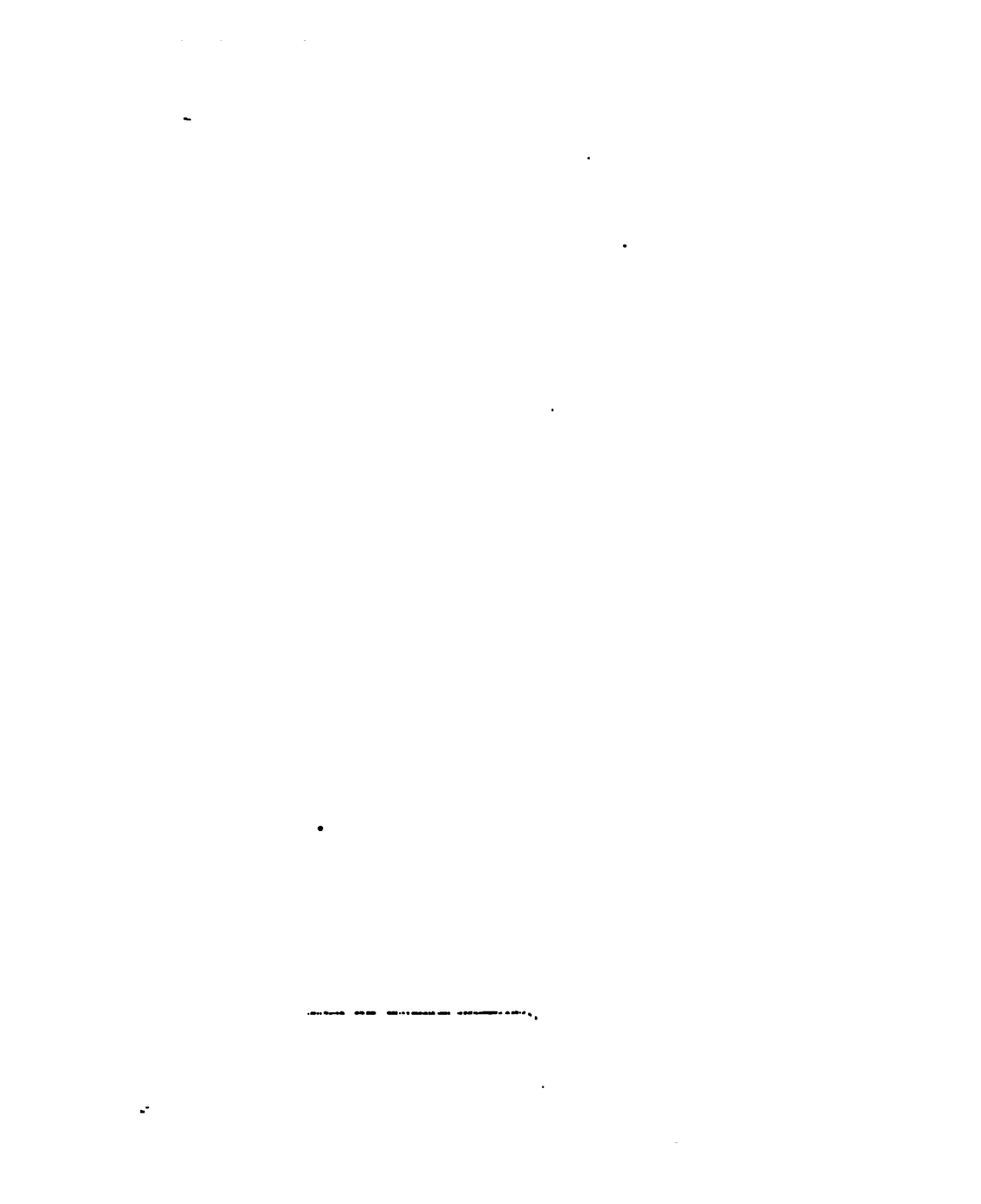
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HEROIC ADVENTURE

CHAPTERS IN
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AND DISCOVERY

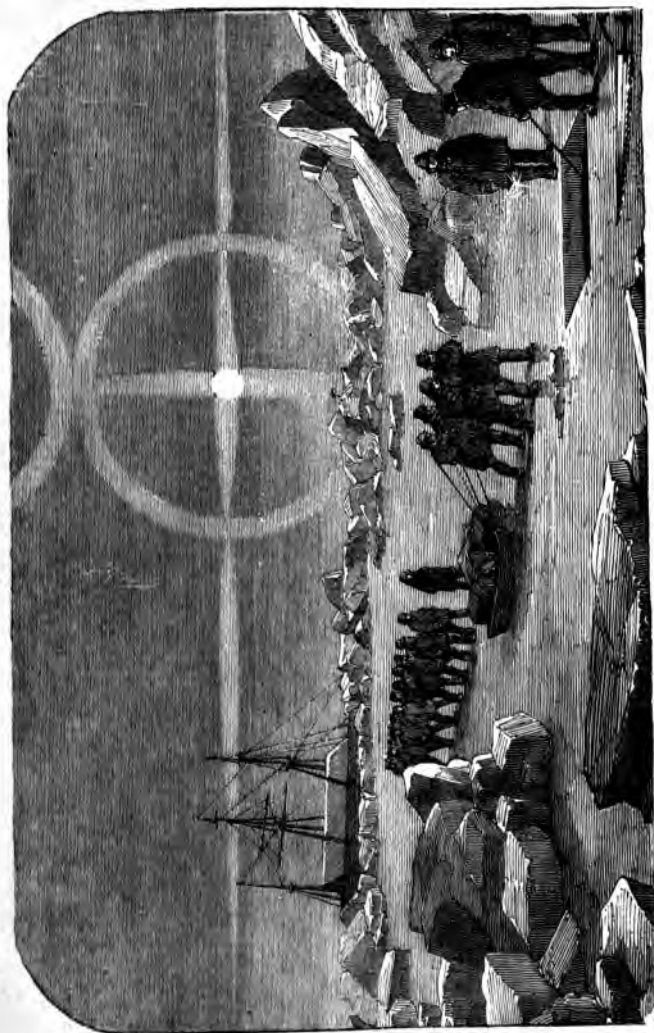








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HEROIC ADVENTURE.

CHAPTERS IN

Recent Exploration and Discovery.

With Portraits and Illustrations.

SECOND EDITION.



London

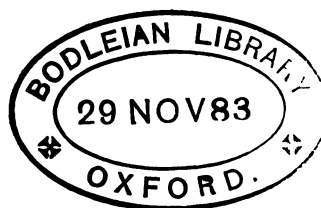
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PREFACE.



THE purpose of the present compilation is to bring before the public mind, in as vivid and popular a manner as possible, the great sufferings heroically undergone by some of our foremost modern explorers. It is due to such men, not only that their contributions to our knowledge of other peoples and countries, and their many services to the advancement of Science and Commerce, should be recorded on the page of history, but that the memory of the fearless courage, boundless enthusiasm, indomitable perseverance, and manifold perils and privations displayed and endured by them in the progress of exploration, should be kept green in the minds of the people.

The publisher regrets that through inadvertence the first edition of this work has gone forth without due recognition of the sources from which its material has been chiefly drawn, viz., "The Heart of Africa," by George Schweinfurth, 2 vols.; "Across Africa," by Major Serpa Pinto, 2 vols.; "A Whaling Cruise to Baffin's Bay," by Commander A. H. Markham; "Mongolia," by Colonel Prejevalsky, 2 vols.—all published by Messrs. Sampson Low & Co.; "The Great Frozen Sea," by Commander Markham, published by Messrs. Kegan Paul, Trench, & Co.; "Travels in Central Asia," by Arminius Vámbéry, published by Mr. John Murray; "Nordenskiöld and the North-East Passage," by J. Leslie, published by Messrs. Macmillan & Co.

He has now gratefully to acknowledge the courtesy of Mr. Vámbéry and the publishers already named in sanctioning the continued use of the material thus drawn from their valuable copyright works; and he has much pleasure in directing the attention of readers who desire fuller information to those works as mentioned above.

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SCHWEINFURTH
AND THE HEART OF AFRICA.

DR. GEORG SCHWEINFURTH is entitled to take rank among the first explorers of modern times, and his journeys to and from the heart of the "Dark Continent" will compare favourably in point of thrilling interest and importance with those of many of his compeers. Out of the great number of Europeans who have made the attempt to penetrate Africa from north to south, he is the second of the only two who have done so successfully, Sir Samuel Baker being the first. Schweinfurth, however, had no mission or object beyond that of an accomplished and enthusiastic botanist. Two years and a half of successful botanizing on the delta of the Nile and the highlands of Abyssinia, made it impossible for him to rest on the soil of Europe. He submitted to the

Berlin Royal Academy of Science a plan for the botanical exploration of the equatorial districts lying west of the Nile, which was accepted. Furnished with a grant of money from the Humboldt Institution, and full of high hopes and expectations, he landed in Egypt in 1868. It will be our privilege to follow him in his three years of wanderings in strange lands and among strange peoples, and to see how scientific ardour combined with great native resources enabled him to battle against circumstances, disappointments, and difficulties which would have crushed any ordinary man.

After a tour of four months through the mountains of South Nubia, Schweinfurth, armed with the necessary recommendation from the Viceregal Government to the authorities at Khartoom, reached this great centre of the ivory trade in the beginning of November, and began his negotiations. His plan was to go in the train of one of the great merchants of Khartoom who had settlements in the far interior, trusting that the countries opened by them would offer sufficient scope for all his energies. This was not so easy a matter to arrange as it might seem, inasmuch as there was a suspicion abroad that a European must needs be a spy upon the illegal traffic in slaves which many of the traders carried on with the connivance of the authorities. However, all obstacles were removed from Schweinfurth's way, the Governor-General himself

arranging a covenant between the traveller and one Ghattas, a Coptic Christian, and the richest of all the Khartoom merchants. Ghattas, who knew that if anything happened to his enforced *protégé* the Government would proceed at once to confiscate his estates, had every reason to protect the life and interests of the adventurous European. Besides, the Governor-General laid similar obligations for his protection upon all the other chief merchants who had possessions in the territory of the Gazelle, and thus his expedition was protected as far as it was within the power of the Government. In order to have continually about him a number of people upon whose fidelity and attachment he might fairly rely under all circumstances, he took into his service six Nubians familiar with different parts of the Upper Nile, and who had served under other Europeans. Circumstances proved that the confidence he reposed in them was not misplaced. All preparations being duly made, the journey to the Gazelle River was commenced in the beginning of January, 1869.

And here, for the sake of the elucidation of what follows, a word or two may fitly be interjected concerning these ivory expeditions into the heart of Africa. In the districts which lie nearest to the ivory countries, and are inhabited by peaceful races devoted to agriculture, the merchants of Khartoom maintain a great

number of settlements. "They have apportioned the territory among themselves, and have brought the natives to a condition of vassalage. Under the protection of an armed guard procured from Khartoom, they have established various dépôts, undertaken expeditions into the interior, and secured an unmolested transit to and fro. These dépôts for ivory, ammunition, barter-goods, and means of subsistence, are villages surrounded by palisades, and are called Seritas. Every Khartoom merchant, in the different districts where he maintains his settlements, is represented by a superintendent and a number of subordinate agents. These agents command the armed men of the country, determine what products the subjected natives must pay by way of import to support the guards, as well as the number of bearers they must furnish for the distant exploring expeditions; they appoint and displace the local managers; carry on war or strike alliances with the chiefs of the ivory countries, and once a year remit the collected stores to Khartoom."

During the journey of the crowded boat along the White Nile, Schweinfurth had more than one foretaste of the pleasures and sorrows which were to fall to his lot further on. The scenery along the banks—the plants, the animals, the inhabitants—were continual sources of delight; but he was nearly stung to death by a swarm of dislodged and very venomous bees.

The boat had to crowd on sail and flee from an armed horde of Shillooks; and on the 8th of February the crew began that terrible conflict with the weeds of the river which other travellers have so graphically described. A passage, however, was safely effected, and sailing along the Gazelle our traveller landed at a *cul-de-sac*, called the Meshera, on the 22nd of February. Compelled to camp during the greater part of March by this unhealthy river, pending the arrival of the bearers who were to help him onwards to Ghattas's Serita, he attributed his happy escape from all ill effects to a precautionary use of quinine.

Several smaller companies joined Ghattas's expedition, for the route lay through a hostile country; and when the caravan started on the 25th of March the number of souls was only a little under five hundred. The caravan extended fully half a mile, and was separated into divisions. Each division had its banner, and to each was appointed its proper place in the procession. The armed men were about two hundred. By the courtesy of the governor of Ghattas's Serita, Schweinfurth had been provided with a saddle-ass, but he preferred to trust to his own legs. Besides, as his was essentially a scientific botanical expedition, he wished to observe and take notes of everything that came in his way, and to collect plants, or anything else that might be of interest. "Thus entirely on foot," he says, "I began

the wanderings which for two years and three months I pursued over a distance of more than 2000 miles. Neither camels nor asses, mules nor horses, teams of oxen nor palanquin-bearers, contributed their aid. The only animal available, by the help of which Central Africa could be opened to civilization, is exterminated by fire and sword. The elephant is destroyed mainly for the purpose of procuring for civilized nations an article wherewith to manufacture toys and ornaments, and Europeans still persevere in setting the savages a pernicious example in this respect."

The course of the expedition now lay in a tolerably straight south-west direction across the western district of the unsubdued Dinka, a race famous for their cattle-breeding. Indeed, the number of their cattle is perfectly astonishing, notwithstanding the fact that they are stolen in thousands annually by the Nubians. On the approach of an expedition the natives desert their village with all possible despatch, and drive their herd to a safe place. In this way shelter, if nothing else, is generally assured to the members of the caravan. The Dinka occupy a high place in the scale of savage nations, and have as yet prevented the Khartoomers from making good their footing upon the soil. The expedition passed safely through their territory, and reached the Serita of Ghattas, where Schweinfurth met with an imposing reception, and was made as comfort-

able as circumstances would allow. Provisions of every sort were placed at his disposal, and his people had free board for a month. Two moderate-sized, neatly built huts within the palisade were prepared for him, but they were not nearly large enough to accommodate him with all his baggage. He was not permitted to lodge outside the enclosure, for the alleged reason that the natives, under cover of the darkness, murdered people in their sleep; and as the actual Serita was no more than two hundred spaces square, and was crammed with huts, there was no spot where a more spacious residence could be erected. Accordingly, he was obliged to content himself with a hut eighteen feet across. To increase his storage-room he contrived to make some shelves and stands out of bamboo-canes, while the tables, which were necessary for his botanical pursuits, were made from some deal planks he had brought all the way from Khartoom for the express purpose.

In the enjoyment of perfect health our traveller passed the first few weeks in a "transport of joy, literally enraptured by the unrivalled loveliness of nature." As Ghattas's Serita was to be his home for several months he tried to make his quarters as conducive to comfort as possible. One of the first things he did was to lay out a large garden for himself, and to sow the seeds he had brought with him; but as soon as this

was done he threw himself with enthusiasm into the study of the luxuriant flora of the neighbourhood. He has given us an interesting glimpse of a day's botanizing. "Up with the sun, I used to take one or two of my people with me to carry my portfolios and my arms, and in the safe proximity of the Serita I explored the woods for hours together, returning about noon with a whole treasury of floral wealth. My table at meals never failed to be well supplied, and I was treated as bountifully in Africa as I could be. I enjoyed sitting in the shade of some spreading tree while I proceeded to analyze, to classify, and to register the various novelties which I was perpetually finding. Later in the day I was in the habit of wandering out alone over the plains, whilst my servants at home busied themselves in renewing the paper for my *hortus siccus*, and in pressing out the plants afresh. This labour of the day was often carried on till quite late at night. It was repeated so often that my collection increased to a very considerable extent; roll was piled up after roll; everything most carefully stitched up in hides ready to go along with me on my farther journey, and to be carried across deserts and seas until they could finally be deposited in the magazines of science." When we say that in the space of his five months' residence he collected specimens of no fewer than seven hundred different flowering plants alone, some idea of the

botanical wealth of the district will be gained. These botanizing days were varied by occasional hunting expeditions and excursions to the surrounding and subsidiary Seritas of Ghattas. In these journeys nothing seems to have escaped the omnivorous eyes of Schweinfurth. He never failed to return without large accessions to his botanical treasures and to his knowledge of the manners and customs of the natives—Dinka, Bongo, and others. About the end of May he had a narrow escape of losing his life and treasures by fire, but nothing was lost. The beginning of September saw some forty packages of botanical treasure-trove carefully sewed in skins and despatched to Europe, *via* Khartoom, as a sort of trophy or pledge of the success of the expedition. Meantime his home at the Serita could hardly be said to be improving. Here is his own picture of it: "My want of space was a great difficulty. I was hardly at all better off in the hut where I ordinarily lived than in an old over-crowded lumber-room. I had no cupboards and no small chests, and consequently I was compelled to be ever packing up my thousand bits of property. The framework, of my own construction, which reached up into the circular roof, did something to increase my accommodation, and I hung bags upon it containing my clothes and linen, and a whole host of little things besides I stuck into the straw thatch above. Under

such circumstances no wonder that I had perpetual conflict with rats, crickets, and cockroaches, and that they were a constant source of annoyance.

“The only method which was really an effectual guarantee for the protection of any articles from being gnawed to bits was to hang them up; but whenever at nightfall I had any packages which could not be suspended, there was one device of which I made use, and which was tolerably successful in keeping rats at a distance. One of the commonest animals hereabouts was the wild cat of the steppes (*Felis maniculata*). Although the natives do not breed them as domestic animals, yet they catch them separately when they are quite young and find no difficulty in reconciling them to a life about their huts and enclosures, where they grow up and wage their natural warfare against the rats. I procured several of these cats, which, after they had been kept tied up for several days, seemed to lose a considerable measure of their ferocity and to adapt themselves to an indoor existence, so as to approach in many ways to the habits of the common cat. By night I attached them to my parcels, which were otherwise in jeopardy, and by this means I could go to bed without further fear of any depredations from the rats.

“Quite helpless, however, did I appear with regard to the devastations of the crickets, which found their way

through my stoutest chests, ate holes into all my bags, and actually fretted my very wearing-apparel and body-linen. Subsequently I received a supply of borax, and this turned out to be an adequate security against their mischief.

“The encroachment of the woodworms in the bamboos which composed my hut developed itself into a nuisance of a fresh sort. To myself it was a matter of great indifference whether the building collapsed sooner or later, but just at present it was a great annoyance to me that all day long there should be an unceasing shower of fine yellow dust, which accumulated on everything till it lay as thick as my finger, and almost exceeded the bounds of endurance.” At night his rest was often broken in upon by the devotions of his Mohammedan servants, by the noisy ceremonies of the native myrads in the exorcism of evil spirits, and by the tipsy Nubians, who found a special delight in banging away at the kettle-drums which hung at the entrance of the Serita. Schweinfurth’s science, however, came to his rescue as regards the latter. A sprinkling of muriatic acid on the parchment of the instruments—and when they were beaten next time they split across! Until new drums were provided he slept in peace.

Schweinfurth had in his residence of seven and a half months become so familiar with the neighbourhood of Ghattas that his eager nature began to chafe against

its restraints. An invitation from Aboo Sammat, a brave, enterprising, and successful merchant, to visit with him and at his expense the Niam-Niam lands in the far South, was hailed and accepted with delight. From various reasons Ghattas's people put all the obstacles they could in the way, but, these surmounted, our traveller left the Serita on the 17th of November. He limited himself to thirty-six packages, and only took with him his Nubian servants and three slaves, besides a young man Aboo Sammat had given him to teach him the Niam-Niam dialect and to act as interpreter. Sammat's following, however, amounted to some two hundred and fifty men. Seven days' journeying over a country all but uninhabited brought him to Sabby, the head Serita of his friend and protector, who received him with true Oriental hospitality. Not only had he built for his guest three pleasant huts enclosed in their own fence, but he provided several chairs and tables, and sent to a Serita, eight days' journey, for some cows, in order that Schweinfurth might enjoy new milk every day. The distinction thus accorded him worked him good with the natives. They came to the conclusion he was somebody very great, and they said to each other, "This white man is a lord over all the Turks." The months of December and January were spent in a tour of considerable extent through the Mittoo country, lying to the east of Sabby. In addition

to three of his own servants, Aboo Sammat had provided him with ten bearers for the transport of his baggage, and a Nubian captain to act as guide and to provide for his accommodation all along the route. This journey of two hundred and ten miles through a country hitherto almost unknown, even by name, was safely accomplished with only two trifling accidents. A sore foot condemned Schweinfurth to a litter for some days, and thus interfered with his investigations, and having used up all his pencils he was obliged to write with *hens' blood*. He studied diligently, however, both the dialect and the condition, customs and manners of the Mittoo tribes, and what he has written on this subject is of the greatest ethnological value.

On his return immediate preparations had to be made for the long-anticipated journey to the Niam-Niam country. What with two months' clothes-washing to do, the arrears of his diary to make up, some more "valuables" to send on the way to Europe, and the thorough equipment for the new journey to see to, the fourteen days allotted for the purpose passed very quickly. Aboo Sammat more than fulfilled his promised kindness and help. The whole of Schweinfurth's retinue, consisting of four Nubian servants, three negro interpreters, and about forty Bongo bearers, were supplied at the sole expense of Mohammed. "Never before had any European traveller in Central Africa

such advantageous conditions for pursuing his investigations; never hitherto in the heart of an unknown land had there been anything like the same number of bearers at his disposal, and that, too, in a region where the sole means of transport is on the heads of the natives." A start was made on the 29th of January, 1870. On the way they were joined by a company of Ghattas, with a large herd of cattle stolen from the Dinka, so that altogether there were about eight hundred people in the caravan.

Schweinfurth had his first opportunity of seeing the Niam-Niam in the reality of their natural life at the Mbanga, or residence of Nganye, a native prince on friendly terms with Sammat some fifty or more miles south of Sabby. Whilst reposing under an awning that had been put up as a shelter from the sun the natives came thronging in to look at the white man, and bestowed upon him "such a prolonged and decided stare" that he had a good opportunity of transferring a few of their portraits to his sketch-book. "As became a people with whom hunting is a prominent feature in their pursuits, they were girded with skins. High upon their extensively dressed hair they wore straw-hats covered with feathers and cowries, and fastened on by means of long bodkins of iron or copper. Their chocolate-coloured skin was painted in stripes, like those of the tiger, with the juice of the blippo." Proceeding further

south they reached the river Suay, which forms the southern limit of Nganye's territory, and which our traveller was able to identify as the Upper Dyoor, a matter of some geographical importance, inasmuch as it established the independence of the Welle as a system distinct from that of the Nile basin, and flowing west. Crossing the Suay and marching still south, the caravan took its way through charming bush forests, across extensive flats, or steppes, now crossing a brook and again diving into a ravine deeply overhung by the broad branching foliage of fig trees, until the farmsteads of Kulenje, the first settlements of the Niam-Niam subject to the immediate control of Aboo Sammat, were reached. The next day Sammat's Serita afforded a welcome rest to the weary travellers. From this as a centre, Mohammed—or rather his vice-regent Surrow—ruled over a populous territory of seven hundred square miles. For a period of sixteen days Schweinfurth made an assiduous investigation of the woods and the natives. "I was able to roam about at will in the adjacent jungles," he says, "as the environs were as safe as those of Ghattas's Serita in the Dyoor; and altogether I was soon as comfortable as I could desire in this remote land. The scenery was lovely; the two streams (the Nabambisso and the Boddo) never failed throughout the year to be well supplied with water, and flowed through deep glades where the lofty trees

were wreathed and festooned with creepers in clustered grace that would have been an ornament to any palm-house."

On the 25th of February the march was resumed, Mohammed Aboo Sammat having returned from the Mittoo country, whither he had gone for bearers. The expedition was now only a little short of 1,000 strong, and the marching column was not much short of four miles in length. A curious result of this was that, after a short day's march, those in front were erecting their huts with leaves and grass before those in the rear had quite lost sight of the smoke of the previous night's encampment. Only a small portion of Schweinfurth's cattle remained, and the maintenance of the men in the Serita had quite exhausted the stores. "To Mohammed's great annoyance, even the sorghum-seed, which was to have been conveyed to Munza, king of the Monbuttoo, as a curiosity, had been consumed as material of diet, and thus the heart of Africa had been deprived of one advance in culture.

The first real anxiety of the expedition began at the Mbanga of Nduppo. This chief, who happened to be on bad terms with his brother Wando, to whom, however, he was subject, informed Mohammed that Wando had sworn that "Mbably" ("the little one," the name by which Sammat was known) should not escape this time, but that he and all his crew should be anni-

hilated. Accordingly Aboo Sammat arranged the caravan next day after the Nubian manner. The armed force was separated into three companies, each headed by its own banner. Behind the first marched the bearers of linen goods, bars of copper, and stores of beads; then followed the middle division, keeping guard over the ammunition, and having the women and slaves, as it were, under their wing. The third company acted as rear-guard. With great wisdom Mohammed had sent a troop of native soldiers, whom he had trained and armed well, to reconnoitre in front and on either hand. "As a general rule, these blacks made much more effective soldiers than the Nubians, and upon them fell the heaviest of all the work. Their employment of hunting, which is a pursuit much too laborious for their oppressors, makes them far more expert and practised shots, and besides this they are heartier in their work, and fear neither wind nor weather." However, the hamlets on the way were found deserted, and, contrary to their expectation, Rikkete, another brother of Wando, welcomed them at his mbanga. War for the present was therefore postponed. Wando even sent messengers with peaceful pledges, but he was a crafty savage, and knew what he was about. The sequel will show the value of his pledges.

The companies who had hitherto kept together for mutual protection now separated, Mohammed drafting

off a hundred of his soldiers to accompany the corps of Ghattas, which was to take a west-south-west direction. Led on by a large number of guides and natives, Sammat's caravan headed direct south. With the Lindukoo River, Schweinfurth afterwards came to the conviction that he had bidden farewell to the district of the Nile, and was the first European coming from the north who had as yet traversed the watershed of the mysterious and ancient river. The progress was now very slow, for the route lay across many streams, deep valleys, with perpendicular banks, and treacherous marshes of black slime. There was no crossing of these marshes except on foot, and by jumping from mound to mound, keeping the balance in the best way possible. Should the traveller grasp at any support, the prickly leaves of the pandanus, with its saw-like edges, would not fail to make terrible havoc with his hands. Schweinfurth's picture of the passage of the marshes is very graphic and amusing. "For miles far away the deserts re-echoed back the shouts of the bearers as they splashed through the waters; and the air around reverberated with the outcry, with the mingled laughing and swearing of the Nubians, and with the fluster of the women slaves as they jostled each other in carrying their dishes, gourd flasks, and calabashes through the prickly hedges. Every now and then would arise a general shriek, half in merri-

ment, half in fright, from a hundred lungs, betokening that some unlucky slave had plumped down into a muddy hole, and that all her cooking utensils had come tumbling after. I could not help being on continual tenter-hooks as to the fate which would befall my own baggage, particularly my herbarium, which, although it was packed up most cautiously in india-rubber, yet required to be handled very gently. My Bongo bearers, however, were picked men, and did their work well. They waded on and never once had any misadventure, so that it resulted that everything, without exception, that I had gathered in these remote districts of Central Africa was spared alike from loss or damage.

“Dressing and undressing on these occasions was tiresome enough, but it was not the whole of the inconvenience. When the task of getting across had been accomplished, there still remained the business of purification ; and no easy matter was it to get free from the black mud and slime that adhered tenaciously to the skin. It almost seemed as if Africa herself had been roused to spitefulness, and was exhibiting her wrath against the intruder who presumed to meddle with her secrets. With a malicious glee she appeared to be exulting that she was able to render the white man, at least for the time, as black as any of her own children ; nor was she content till she had sent a plague of mud

leeches to add to his discomfort. Naked and shivering she let him stand in the mist and rain of a chilly dawn, and no help for him till some friendly hand should guide him to a pool where the water still was undefiled, and he could get a wash. And then what a scraping! How ruefully, too, would his eye fall upon the ugly blood-suckers which clung about his legs! To make these relax their hold recourse must be had to the powder-flask; and after all the clothes would be saturated with the blood that had been shed in vain."

When the caravan came within sight of Wando's residence the intrepid Mohammed borrowed Schweinfurth's revolver and hurried off to see what kind of a reception he was to meet with from the king. As soon as he entered Wando's hut he was surrounded by warriors who levelled their lances at him in a threatening manner. Nothing daunted, he cocked his pistol and dared them to touch him. The Niam-Niam were intimidated at once, and not long after Wando was to be seen arm-in-arm with some of Sammat's officers. His hospitality, however, was of so meagre a description that our traveller did not fail to rate him soundly on the fact. The composure and native dignity of this prince, savage as he was, "were those of which no European when receiving homage need to be ashamed." To Schweinfurth the halt of four or five days yielded a harvest of delight. The flowers, the ferns, the

gigantic trees formed an "unbounded storehouse of creative wealth," in which he fairly revelled, to the great amazement of the Niam-Niam of the caravan. They called him "leaf-eater," and one of his interpreters alleged to his friends that the white man was in the habit of eating whatever he found growing. "He used to relate," he writes, "that I had a habit of dismissing my servants and getting into a dense thicket, where I imagined that I was unobserved, and that then I used with great haste to gather and devour enormous quantities of leaves, and he added that this was the way in which, one day after another, I groped after my ordinary food. Others contributed their observations that I invariably came forth from the woods with an exhilarated expression, and quite a satiated look, whilst they were conscious of nothing else than the cravings of hunger."

Leaving Wando's residence on the 6th of March, the expedition passed through the territory of A-Banga, a tribe said to have come across the desert and settled down in subjection to Wando. At first the inhabitants were peacefully inclined, but as the caravan proceeded on its way they assumed a hostile attitude. Three women who had gone to the Yuroo for water were found fatally wounded, while six others had disappeared. War thus being declared, Mohammed formed his soldiers into *companies* and sent them in search of

hostages. They found the farmstead deserted, and had to return without accomplishing their purpose. Some of the local chiefs, however, put in an appearance during the day, and by virtue of terrible threats succeeded in securing the return of the captives. Leaving the inhospitable country next morning, the caravan, without breaking the fast of the night, crossed the Yuroo, traversed some more steppes, forded a few streams, and arrived at the river which marked the boundary of the Monbuttoo kingdom. On the other side they were welcomed by the chiefs Nemberg, Bongwa, and Izingerria, the viceroy and brother of King Munza respectively. The 19th of March was a memorable day to Schweinfurth, for then he stood on the banks of the River Welle, and saw that it rolled its deep, dark flood to the west, and therefore did not belong to the Nile at all. The passage of the great river was safely effected by means of canoes provided by King Munza himself, and at last our traveller found himself in the land of his dreams—the fascinating dreams of his “early youth.” The impression which this new and strange land made upon him had better be given in his own words.

“Nothing could be more charming than that last day’s march which brought us to the limit of our wanderings. The twelve miles which led to Munza’s palace were miles enriched by such beauty as might be

worthy of Paradise. They left an impression upon my memory which can never fade. The plantain groves harmonized so perfectly with the clustering oil-palms that nothing could surpass the perfection of the scene; whilst the ferns that adorned the countless stems in the background of the landscape enhanced the charms of the tropical groves. A fresh and invigorating atmosphere contributed to the enjoyment of it all, refreshing water and grateful shade being never far away. In front of the native dwellings towered the splendid figs, of which the spreading crowns defied the passage of the burning sun. Anon we passed amidst jungles of raphia, alongside brooks crammed full of reeds, or through galleries where the pandanus thrived, the road taking us up hill and down hill in alternate undulation. No less than twelve of these brooklets did we pass upon our way, some lying in depressions of one hundred feet, and some sunk as much as two hundred feet below the summits of their bounding walls of verdant vegetation, and there were two upheaved and rounded hills of gneiss, rising to an altitude of some three hundred feet, along the banks of which we wound our path. On either hand there was an almost unbroken series of the idyllic homes of the people, who hurried to their gates and offered us the choicest products of their happy clime."

Were it within the scope of our purpose in this

volume, a long and deeply interesting account of the Monbuttoo people and their king, whom Schweinfurth was the first European to visit, might here be given, but we must dismiss the subject with a few words. Those who desire to know more cannot do better than read Schweinfurth's volumes for themselves. The territory of the Monbuttoo, which lies some 2,500 feet above sea-level, and extends over 4,000 square miles, is so thoroughly cultivated that it supports a million or more of inhabitants. In spite of their undoubted cannibalism and low morality, the people of this nation stand higher in the grade of civilization than any other known people in Central Africa. Their skill in all kinds of smith-work, wood-carving, and architecture is worthy of the highest praise. In person they are flexible yet muscular, while their complexion is of a much lighter tint than that of any other Central African race. Besides poultry they have no domestic animals, but the neighbouring countries yield them an abundance of game of all kinds, notably the elephant, which of course they turn in the well-known way to commercial purposes. In Monbuttoo-land ivory is abundant and cheap. Munza, the king, lived in great splendour amid his hundreds of wives and great chiefs. Our traveller had more than one interview with this powerful savage, and has presented us with a picture of him which is more striking *than attractive*. "He was a man of about forty years

of age, of a fair height, of a slim but powerful build, and, like the rest of his countrymen, stiff and erect in figure. Although belonging to a type by no means uncommonly, his features were far from prepossessing, but had a Nero-like expression that told of *ennui* and satiety. He had small whiskers and a tolerably thick beard; his profile was almost orthognatic, but the perfectly Caucasian nose offered a remarkable contrast to the thick and protruding negro lips. In his eyes gleamed the wild light of animal sensuality, and around his mouth lurked an expression that I never saw in any other Monbuttoo—a combination of avarice, violence, and love of cruelty that could with the extremest difficulty relax into a smile. No spark of love or affection could beam forth from such features as his." In describing the first view he had of this savage, he says: "I was intensely interested in gazing at the strange, weird-looking sovereign, of whom it was commonly reported that his daily food was human flesh. With arms and legs, neck and breast, all bedizened with copper rings, chains, and other strange devices, and with a great copper crescent at the top of his head, the potentate gleamed with a shimmer that was, to our ideas, unworthy of royalty, but savoured far too much of the magazines of civic opulence, reminding one almost unavoidably of a well-kept kitchen! His appearance, however, was decidedly marked with his

nationality, for every adornment that he had about him belonged exclusively to Central Africa, as none but the fabrications of his native land are deemed worthy of adorning the person of a king of the Monbuttoo. Agreeably to the national fashion, a plumed hat rested on the top of his chignon, and soared a foot and a half above his head. This hat was a narrow cylinder of closely-plaited reeds. It was ornamented with three layers of red parrot's feathers, and crowned with a plume of the same. There was no brim, but the copper crescent projected from the front like the vizor of a Norman helmet. The muscles of Munza's ears were pierced, and copper bars as thick as the finger inserted in the cavities. The entire body was smeared with the native ungent of powdered camwood, which converted the original bright brown tint of his skin into the colour that is so conspicuous in ancient Pompeian halls. With the exception of being of an unusually fine texture, his single garment differed in no respect from what was worn throughout the country. It consisted of a large piece of fig bark impregnated with the same dye that served as his cosmetic, and this, falling in graceful folds about his body, formed breeches and waistcoat all in one. Round thongs of buffalo hide, with heavy copper balls attached to the ends, were fastened round the waist in a huge knot, and like a girdle held the coat, which was neatly hemmed. The material of the coat

was so carefully manipulated, that it had quite the appearance of a rich *moiré antique*. Around the king's neck hung a copper ornament made in little points, which radiated like beams all over his chest. On his bare arms were strange-looking pendants, which in shape could only be compared to drumsticks with rings at the end. Halfway up the lower part of the arms, and just below the knee, were three bright, horny-looking circlets cut out of hippopotamus hide, likewise tipped with copper. As a symbol of his dignity, Munza wielded in his right hand the sickle-shaped Monbuttoo scimitar, in this case only an ornamental weapon, and made of pure copper."

A red-letter day to Schweinfurth was that which brought him face to face with a live pigmy, and convinced him of the truth of the existence of a veritable race of dwarfs. Munza had a colony of these little people located near his residence, and he made a present of one to the stranger, a boy of fifteen, rejoicing in the euphonious name of Nsewue. The native name of these people is Akka, and they inhabit large districts to the south of the Monbuttoo. Their average height is four feet ten inches, and their general appearance is grotesque in the extreme. Schweinfurth was defeated in his endeavour to bring a live specimen to Europe, for little Nsewue died on the way through immoderate excess in eating. There can be little doubt that the

Akka are identical with the Bushmen, who are found in many of the recesses of Africa, and who, possibly, are the original inhabitants of the country.

Three weeks slipped away all too quickly in this land of wonders, but a scarcity of provisions made a move imperative. Schweinfurth was reduced to a flat tough cake made of manioc and plantation-meal, for the goats which he was able to buy he turned into extract of meat for future use. Mohammed, having exhausted Munza's supply of ivory, turned his eyes further south, in the hope of opening a new market for himself, and with an appetite unsatiated with all that he had seen, Schweinfurth entered with the greatest enthusiasm into the plan. But, to the deepest regret of both, the project had to be abandoned. Munza, fearing for his monopoly of the copper trade, would not lend his co-operation, without which the undertaking would have been an impossibility. There was no alternative but to retrace their steps. Schweinfurth, indeed, entertained the thought of remaining alone with the soldiers who would be left in the Serita, and of penetrating to the undiscovered south ; but Mohammed would not hear of it for a moment. "Besides," he reflected, "it was very doubtful if we could be relieved during the next year, or the year after, if at all. My resources were even now hardly enough to take me home again ; the *wherewithal* for further enterprise was altogether want-

ing. If I should entrust my collection, which I had so laboriously gathered, to the care of others, there was every risk of its becoming wet and spoiled. The prospect, too, of penetrating into the interior under the escort of the Monbuttoos themselves was not altogether inviting. I should only have accompanied their plundering raids, where I should have been compelled to be a daily witness of their cruelties and cannibalism. Thus, upon serious deliberation, I was driven to the conviction that my scheme was not feasible." On the 12th of April the march northward began. Approaching Wando's territory, there was no mistaking the fact that war was inevitable. Hung across the path were found the well-known emblems of defiance—the maize, the feather, and the arrow. By and by some natives appeared, who professed that they could give the caravan a safe conduct across the country, affirming also that they knew where Wando had deposited Mohammed's ivory. Schweinfurth warned his friend in vain not to accept their escort. At the A-Banga village no women or children were to be seen, but there was plenty of food, and the company rested there that night. At the head of his people next day, Aboo Sammat was the first to suffer for his over-confidence in the treacherous savages. Getting between him and his shield-bearers, one of the pretended guides thrust at him with a spear. He was terribly wounded, and might have died but for his own

courage in pulling out the barbed spear, and the prompt surgical measures adopted by Schweinfurth. Reprisals of course followed at once. Chase was given, and several heads were brought to Mohammed's feet as trophies. The granaries of the villages were ransacked and the huts set on fire. Some of the missing ivory was subsequently discovered by accident in a hut, and after some skirmishes, in which the A-Banga decidedly had the worst of it, the caravan resumed its march.

With very little more trouble Aboo Sammat's Serita was reached on the 1st of May, "a month which, in these latitudes, may truly be called a month of rapture." Mohammed lost no time in starting off on a campaign against the brothers Mbeech and Wando, and during his absence Schweinfurth was to make his home at this lonely place. In spite, however, of the thousand attractions of nature, the prospect was anything but inspiring to the adventurous European. The provisions were nearly exhausted; the cattle had all been slaughtered long ago; goats or even game of any kind could not be had, and Aboo Sammat would be absent twenty days at the least! He had indeed left twenty tiny fowls with his guest, insuring at least one meal a day; but they had to be fed, and the stock of eleusine grain was scanty enough already. In the bracing air of the Niam-Niam country a fowl scarcely as big as a partridge, and a single piece of coarse and bitter

eleusine bread as a daily allowance, was far from sufficient, and Schweinfurth began to feel the pangs of hunger. In the immediate neighbourhood of the Serita there was a huge white ant-hill, which yielded a certain kind of replenishment for the empty larder. Every night after a heavy rain, the fat-bodied winged class of these ants, known as "sexual males," came out in myriads, and proceeded to divest themselves of their wings, leaving their heavy bodies helpless on the ground. They could then be collected by the basketful, and were eaten fried or boiled. Sometimes Schweinfurth mixed them with uncooked corn, and ate them from the hollow of his hand. He was now also fain to make good his name of "Leaf-Eater," for vegetables there were none. The tubers had been all eaten, and the gourd season had not yet come. He could not eat the boiled gourd leaves like the natives, and he therefore sought some of the *Melochia* of the Arabs, a species of *Corchorus*, a plant which, when boiled like spinach, Sir Samuel Baker had subsisted upon for some weeks, when deserted by the natives. At this time, however the plant was just beginning to sprout, and poor Schweinfurth could never get more than the smallest of platefuls. He did his best by an enthusiastic study of the splendid and luxuriant vegetation of the neighbourhood, and by reading over and over again every scrap of printed matter upon which he could lay his

hands, to forget the pangs of hunger. But nature is stronger than the most enthusiastic of botanists; her voice would not be stilled. "At night," he says, "my dream was akin to Baker's dream of pale ale and beef-steak. It seemed as though he only required a good meal's victuals that he might die in peace, and be contented to have for his epitaph the saying of the warrior of the Roman Empire: 'What I have eaten and what I have drunk is all that now remains to me.' Nothing could elevate the vision of the mind for long; tied down to material things, it was impotent to soar; and food and drink became the single and prevailing theme which we were capable of handling by day or dreaming of by night."

The three weeks were drawing quickly to a close without any word from Mohammed, and as each day made their necessities more urgent, Schweinfurth resolved on an excursion to the nearest settlement of Khartoomers, some forty miles distant. The journey would be across Sammat's territory, and therefore safe; besides, there was a lofty mountain in the vicinity which offered special attractions to the explorer, who was also a man of science. Accordingly, accompanied by ten bearers, he started for the East on the 21st of the month. The little band was received hospitably by the overseers and chiefs whose Seritas they visited, and while all found an abundance to eat, our traveller

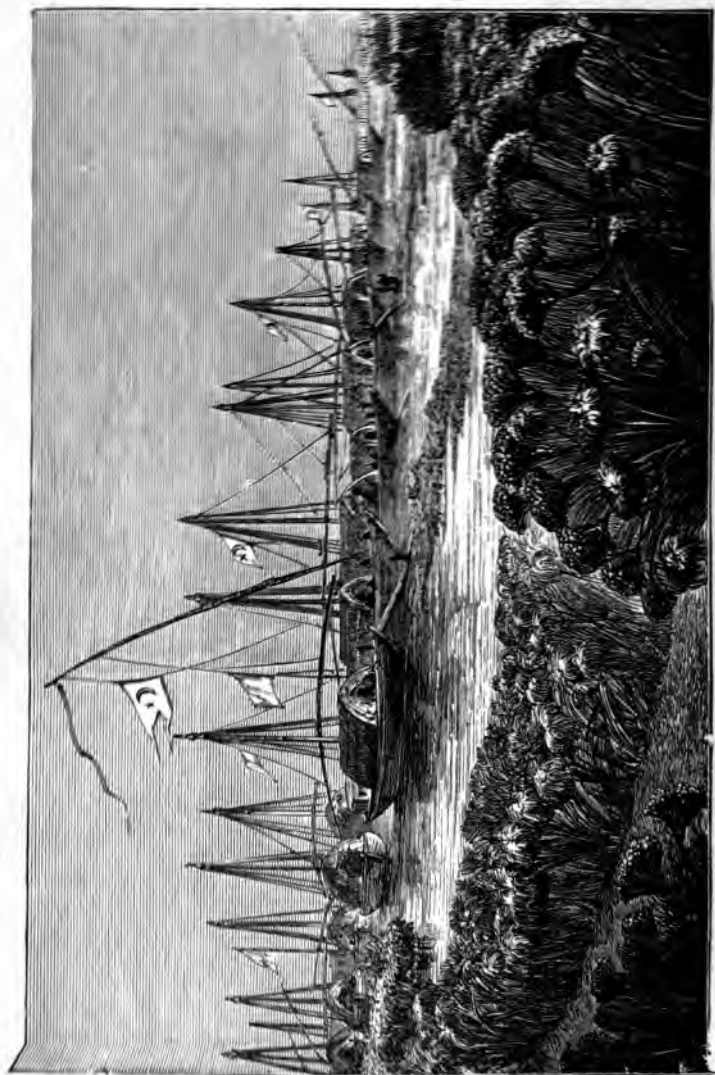
discovered many new plants, and added largely to his general stock of knowledge. At Mount Baginye, the height of which he estimates at 3900 feet, he stood by the source of the Dyoor, and felt a pardonable pride at being the first European traveller who had ever penetrated to the actual source of any of the more important affluents of the Nile. The 1st of June saw him reinstated in the old Serita on the Nabambisso, but under happier auspices than when he left it. The gourds had ripened, fresh maize had been imported, and the guinea-fowl had taken up its quarters in the neighbourhood during his absence. There was therefore now no lack of food. In a day or two Mohammed returned from his campaign, and after a little breathing space the journey northwards was renewed. It was now the height of the rainy season, and travelling was anything but easy or pleasant. Able to read the signs of the skies, however, a sudden or heavy storm rarely found them unprepared. A grass hut was quickly run up, and underneath it Schweinfurth with his herbarium and other goods were safe enough. By the aid of a little oil-lamp of his own contrivance, and fed by grease of a very suspicious character, he would beguile the hours by writing down the experiences of the day. No such protection had the poor negroes who crouched round the camp fire while the pitiless rain pelted down upon their backs. One morning our traveller had a strange

experience. "We were all of us," he says, "intensely interested in keeping our own little dry spot free from the drenching force of the rain, when all at once I found my cosy quarters invaded by a whole army of ants. They had succeeded in discovering the driest and warmest place within a circuit of many miles, and now, in countless legions, they took up their quarters in my palliasso, which was placed upon a lofty pile of leaves and grass. Their encroachments seemed to come from every side. For a long time I was in perplexity what to do; to leave my hut was impossible, the rain was falling almost in sheets. I endeavoured to protect myself with my clothes, but all in vain. Presently a stratagem suggested itself to my mind; by a happy thought I managed to divert the ants from myself. Dragging some bundles of grass from my bed, I threw them down in detached patches all over the floor, and by way of bait I sprinkled them over with the fragments of food that remained from the supper of the previous night. The scheme answered admirably, and I had the satisfaction of finding the unwelcome guests draw themselves away and give me no more personal annoyance." Such experiences however, were agreeably varied with others of a more pleasant character. Further on some antelopes surrendered to his rifle, and he sat up half the night making extract of meat, and again the wild vine yielded up its loads of ripe clusters.

Apprised of the approach of Mohammed's people, Nganye the Niam-Niam chief, made haste to throw a bridge across the Tondy. It was made in this way. Some of the strongest trees on each bank were chosen for supports, and the bridge, which consisted simply of strong ropes with poles laid upon them as cross bars, was attached to them. "This aerial pathway, as might be expected, oscillated like a swing; but, dangerous as it was, it permitted a passage by carefully crawling from one cross piece to another."

Nganye's residence was the point of departure of another excursion to the East. The object of this journey was to fetch away the ivory which Aboo Sammat had in store on the borders of his Mittoo territory. Schweinfurth determined to accompany him, and reserving only what luggage was necessary, sent the rest on with his servants to Sabby in the train of Mohammed's chief detachment. The route lay through dense forests abounding with game, bamboo jungle, and treeless steppes; but company with Aboo Sammat was soon broken off. He went on to inspect his Mittoo Seritas, and Schweinfurth took the nearest route to Sabby, where he arrived without any very notable adventure on the 3rd of July. A rest of five days was agreeably spent in reading the correspondence of eighteen months, and in re-packing and re-arranging his collection. With a fresh relay of bearers he started on a five days' journey

to Kulongo, a journey which proved to be one of the most trying of all he had yet taken. Mohammed, who was looked up to for a fresh supply of corn, had not put in an appearance, and as a consequence the bearers had to subsist upon the wild roots which they grubbed up on the march. The Seritas which they passed were as hard up as themselves; and so anxious were they to accomplish the journey without loss of time that although there was plenty of game they would not stop to give chase. The last night-camp between the Doggoroo and the Tondy was deplorably wretched. He writes: "Our provisions were positively exhausted; all we could do was to send some messengers to the nearest Serita to insure that we should have a supply of some kind in readiness for us on the following morning. It was also necessary to have extra bearers, as comparatively few of the Bongo or Sabby had any knowledge of the art of swimming. After arriving at the height, from whence for some miles round we could survey the expanse of the submerged lowlands, we had still several hours before we could decipher in the distance the forms of the swimmers bringing the burdens of which we were in such urgent need. My bearers could not control their impatience; greedily they pounced upon the first bags of corn brought to land, and without tarrying for the grain to be cooked, they thrust it by handfuls into their mouths." Truly hunger is the best



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sauce. After such trying experiences the rest and refreshment offered by his old quarters in Ghattas's Serita were very welcome; but had he known what was there to transpire in so short a time the cup of joy would have been dashed from his hand ere it touched his lips.

On account of the miasma, which has its birthplace in the marshes of the Meshera, the journey could not be undertaken at this season of the year, and accordingly Schweinfurth had to cast about in his mind as to how the intervening time was to be filled up. To supervise his large and miscellaneous collection, to write up his correspondence, and to transcribe his journal, considerable as the labour of doing so must have been, did not suffice him. His great ambition was to set out on another Niam-Niam tour, because of a feeling that future travellers would probably find that opportunities so good as his were closed against them. Meantime, having received a new consignment of supplies from Khartoom, he decided to spend the remainder of 1870 in a more complete investigation of the Dyoor and Bongo lands. Returning from two short but successful excursions, he set about with diligence his preparations for the proposed Niam-Niam campaign. His anticipations were never realized. "Just at the time," he says sadly, "when I was rejoicing that climate and my good fortune seemed to be at its height, I was

doomed to drink of that bitter cup of disappointment from which none of my predecessors in Central Africa have been exempt."

The morning of the 1st of December saw Schweinfurth busy with his pen. At midday he partook of his frugal meal, and was just about to take up his pen when the terrible cry of Fire! fire! broke upon his ear. Many a time he had looked at the six hundred huts, built almost entirely of straw and bamboo, and huddled so close together that the passages between them were only a few feet wide, and felt that if fire were ever to break out there would be little hope of saving any part of the establishment. Indeed, the fear so filled his mind that he says it became his bugbear by day and his terror by night. We may imagine his feelings therefore on the eventful morning when, rushing to the door of his hut, he saw that the fire was rising fiercely from the top of a hut only a few yards from his own, and that the north-east wind was blowing the flames direct towards him. There was no time to lose. "Without an instant's delay," he says, "my people flocked to the scene of the alarm. Without stopping to discuss what was most prudent, or to consider what was most valuable, they laid hold upon anything that came to hand. The negro boys took particular care of all the stuffs and of their own clothes, as being of the *greatest* consequence in their estimation, and by these

means all my bedding and two of my leathern portmantaus were carried safely out of the Serita. I myself flung my manuscript into a great chest which had already been provided against any accident of the sort; but my care was of no avail. My servants succeeded in hastily conveying five of my largest boxes and two cases to the open space of the Serita, where the direction of the wind made us presume they would be out of danger; but we only too soon learnt our mistake; the wind chopped and veered about, and the hot blasts fanned the flames in every direction, till there was hardly a place to stand, and it was hopeless to reckon upon any more salvage. A prompt retreat became absolutely necessary; great masses of burning straw began to fall in every quarter, and the high fences of straw left but narrow avenues by which we could escape. The flames sometimes seemed to rise to a height of a hundred feet above the combustible structures of dry grass, and then all at once they would descend, but only to lick with destructive fury some adjacent spot, while a perpetual shower of hot sparks glared again in the roaring air. The crowds, as they rushed away before the advancing flames, were like a swarm of flies hanging around a lighted torch. I cast a look towards the remnant of my property which we had thought we had rescued, and to my horror I perceived that the chests were

enveloped in smoke, and immediately afterwards were encircled by the flames. It was a moment of despair. How my heart sank at the sight none can imagine; for those chests contained all my manuscripts, journals, and records, in comparison with which the loss of all the effects in my hut appeared utterly insignificant, though they were the burdens of a hundred bearers. Regardless of the shower of sparks, which singed off my hair, I made a frantic rush forwards, the dogs with their feet all scorched howling at my side, and breathlessly stopped under a tree, where I found a shelter alike from the raging of the ardent flame and from the noonday glare. In the confusion of the flight I had been unable to get my hat, and was thus fully exposed to the midday heat." Not only was the whole Serita in flames, but even the old trees and the steppe round about, so that it seemed as if the whole district were being "submerged in a sea of flame." In a short half-hour the work of devastation was completed, and what had our traveller lost? Almost everything except his life. Clothes, guns, the best part of his instruments, tea, quinine, the produce of his recent journey, the entomological collection, the examples of native industry procured through much care, all registers of meteorological events, all his journals, all the elaborate measurements of the bodies of the natives he had made. and all the vocabularies he had compiled at

infinite pains, were irretrievably lost, with but one solitary exception. After the lapse of many days, a native picked up in a wood outside the Serita one of his most important manuscripts, containing a copious vocabulary of the Bongo dialect, and a collection of carefully translated phrases and sentences. Besides this, all that he saved was all too easily reckoned up: two chests, three barometers, an azimuth compass, and the iron-work which survived from the different productions of the Niam-Niam and the Minbuttoo. Terrible as was this misfortune, it alone would not have deterred Schweinfurth from proceeding on his proposed Niam-Niam journey. The terrible defeat of the first detachment of the expedition under Aboo Guroon, in which that merchant, a number of native bearers, and a hundred and fifty Mohammedans lost their lives, cut off all hope of proceeding southward. Our traveller had neither boots nor shoes, guns nor ammunition, paper nor instruments, not even watches, which were so essential; and Aboo Guroon was the only one who could have supplied these things. As no succour could reach him for more than a year, and as his great distance from Egypt made the safe arrival of supplies more than doubtful, there was nothing for him but to return to Europe. But six months would have to elapse before the trading boats could start on their return journey down the Nile, and Schwein-

furth, who could never content himself in inactivity, began to think how he could employ the time in the best way. He was not long, he tells us, in making up his mind. "Amongst the few of my effects that were snatched from the flames I discovered ink, together with materials for writing and drawing; and the sight of some sketches that had accidentally been rescued with my bedding first roused me from my feelings of total despair, and told me that I must once again begin to collect and investigate, and preserve my observations by means of pen and pencil. Necessarily somewhat depressed in spirits, I once again turned to as many of my former pursuits as I could, although I felt the increasing pressure of poverty and hardship, and was as dependent as a beggar upon the hospitality of the Nubians, many of whom viewed my presence in the country with suspicion and distrust."

Accordingly he resolved to leave the scene of the disaster and withdraw to Kurshook Ali's Serita beyond the Dyoor, where he knew that the kind-hearted controller Khalil would render him all the relief within his power. It was on the 16th of December that, followed by a small herd of cows, he set out for his new quarters. Schweinfurth was never greater than at the moment when destitution was driving him forth in search of succour. Adversity had no power to *destroy his scientific enthusiasm*. His watches and

other instruments have perished in the flames, and it is important to know, with some measure of exactness at least, what distances he travels. How is it to be done? Only in one most difficult and tedious way; but he will adopt it. Yes, he will *count every step of his journey*, and when he has told off five hundred upon his fingers, he will make a mark in his note-book, which he will cross when another five hundred has been reached, and in this way every thousand paces will be registered. Brave man! In the six months that elapsed before his embarkation he had taken note of a million and a quarter of footsteps, and such was the success of this method of computing distance that his measurements were very little short of perfect accuracy.

Khalil gave the unfortunate traveller a very hearty welcome, and at his well-filled magazine Schweinfurth was able to make good some at least of his losses, though in a manner which makes us who are more happily situated smile. For the replenishment of his wardrobe he hit upon this plan. He took to pieces some of the garments that he had saved, and using these fragments as patterns, he succeeded in cutting out some new clothes, which were sewn by some people on the Serita who understood a little of the art of tailoring. These new clothes, however, were only made of thin calico, and, as he says, "were hardly adapted for the pursuits of a hunter and botanist who spent all

his days in thorny thickets." The only substitute for boots and shoes which he could obtain were the light slippers of the Turks, which he was never able to accustom himself to. Strange to say, no hat was obtainable at the Serita, and he had to make one by pasting together some thick cartridge-paper and sewing some white stuff over the whole. There were still many necessities with which Khalil could not supply him, and in the hope of obtaining these, as well as of adding to his information about that portion of frontier of the Upper Nile territory, he resolved to go west to the Egyptian camp, which was situated close to the Serita of a Khartoom merchant named Seebehr Rahama. Accordingly, accompanied by two of his negro servants, and the few bearers necessary for the little remnant of his property, he set out for the journey west on the 1st of January, 1871. At a Serita on the way he fell in with his old friend Aboo Sammat, also on his way to the Egyptian camp, so they travelled together. Seebehr's Serita, which was safely reached, was enclosed by a palisade two hundred feet square, and presented almost all the features of a town in the Soudan. Besides the soldiers some thousands of slave-dealers from Kordofan had come to the Serita since the last rainy season, and there was as a consequence great scarcity of provisions. Moreover, the picture of Serita life presented to the eye of a European traveller was

anything but pleasant. "The hawkers of living human flesh and blood, unwashed and ragged, squatted in the open places, keeping their eye upon their plunder, eager as vultures in the desert around the carcase of a camel. Their harsh voices as they shouted out their blasphemous prayers; the drunken indolence and torpor of the loafing Turks; the idle, vicious crowds of men infested with loathsome scabs and syphilitic sores; the reeking, filthy exhalations that rose from every quarter—all combined to make the place supremely disgusting." Seebehr, who lived in a princely style, showed great kindness to the stranger. A draft on his account at Khartoom was duly honoured, and thus he was able to make the needed purchases—soap, coffee, cartridge-paper for the preservation of his botanical specimens, lucifers, combs, pipes, and above all, boots and shoes of European make. It seems trivial to chronicle the purchase of lucifer matches, but it was a matter of some importance to a smoker like Schweinfurth, who had been obliged, in order to secure a light for his tobacco, to make one of his people carry a blazing torch during all the recent journey.

Our traveller, who seems to have entertained the hope of being able to proceed homeward by the overland route through Kordofan, had to relinquish it on account of the difficulties of the way. "The prospect of extending my geographical knowledge," he says, "by

traversing unknown lands was very attractive and almost irresistible, but when the difficulties and drawbacks came to be reckoned up, I was compelled, however reluctantly, to relinquish a project so perilous as marching across the steppes of the Baggara, and to reconcile myself to retrace my course of the more secure and habitual highway of the Nile. I could willingly have borne the exposure to fatigue, and it might be to hunger ; I could have risked the peril of being attacked, and could have stood my chance of procuring the necessary provisions and means of transport ; but the extreme uncertainty as to the length of time which the slave-dealers' caravans would take upon their northward return was of itself sufficient to deter me from my scheme." The route, therefore, which he adopted instead was in a south-westerly direction, to a place called Dehm Bekeer, and then across country eastwards to the Serita Agad Won. The journey could hardly be called a pleasant one, for privation and suffering had to be endured on more occasions than one. Provisions could not be obtained at some places where they called, and Schweinfurth felt the loss of his quinine and tea, for he found coffee of little service in bracing up the nervous system. Most likely on account of the lack of proper vegetable food our traveller was seized with a kind of scorbutic attack, and it was very fortunate *that he was* at the time in the hospitable Dehm Gudyoo,

for although provisions were there also very limited, he was able to enjoy the luxury of some sweet potatoes. Though the swelling of his mouth caused him the greatest suffering, he spent the three days he remained in the place in making a collection of words in the Kredy dialect, and in carefully inspecting all the most interesting plants in the neighbourhood. Now hospitably entertained at Dehm Bekeer, and then again exposed all night to a pitiless storm, without even the comfort of a fire ; now seized with a violent cold and altogether out of sorts, and then again unable to eat the game he had knocked over, on account of want of water or grease to cook it in, onward marched the brave traveller, until after forty more days' absence, in which he had counted 876,000 paces, he was once more within the well-appointed quarters of his friend Khalil. But his sufferings had not yet ended.

Intending to return home at the close of his Niam-Niam tour, he had not ordered any quantity of fresh stores from Khartoom, only the few articles necessary for the passage down the river, and these were lying at the Meshera. Until they came he must perforce endure some weeks of poverty, and he was physically in anything but a satisfactory condition. Unless hunting or walking, he was conscious of nothing but weariness and dejection. Even sketching from nature, which had been something of a passion with him, now failed to

divert him. The leucotes antelope supplied him with plenty of meat, but he had no vegetables; indeed, for months the only vegetable diet he had were some sorghum cakes. On the 30th of March he received his few stores from the Meshera. Provided with a new stock of paper, he resumed with enthusiasm his botanical work, and made a collection of bulbs and tubers with a view to bringing them to Europe.

Towards the middle of April Khalil's store of corn was so nearly exhausted that Schweinfurth was unable some days to obtain a single handful of durra-corn. So great an impression had the terrible disaster at Ghattas's Serita made upon his mind, that, although he knew he would be better off there, he shrank from going. But Want wields a terribly stern sceptre, and he was at last compelled to yield to the urgent solicitations of his starving Bongo, and set out for the dreaded place. Things were a little better at Ghattas's, but the crowded Serita, with its fever-stricken and diseased inhabitants, was most repulsive to him. To get away from such unpleasant surroundings to the fresh and healthy face of nature, he took a farewell trip to Geer towards the end of May. From this place he selected a Bongo boy, called Allagato, whom he wished to take with his little Tikkitikki to Europe.

At last circumstances were favourable for his return to the realms of civilization, and on the 4th of June

began the march to the Meshera. Some cattle raids were the chief distinguishing features of a journey of 216,000 paces, or eighty miles, which brought Schweinfurth to the place of embarkation. There is no need to dwell upon the return journey of twenty-five days along the Gazelle and the White Nile to Khartoom, a journey which was accomplished not without trouble, but in safety. The dark continent was practically behind him and Europe almost within hail, but he was destined not to leave a soil as fertile of disappointments as of wonders without one more crushing blow. At Berber, Nsewue, his little Tikkitikki, whom he had hoped to bring to Europe, in confirmation of his discovery of a veritable race of pigmies, relegated so long to the regions of myth and fable, sickened and died. We can enter into Schweinfurth's feelings when he says, "Never before, I think, had I ever felt a death so acutely; my grief so weakened and unmanned me that my energies flagged entirely, so that I could scarcely walk for half an hour without extreme fatigue. Since that date two years (he is writing in 1878) have passed away, but still the recollection of that season of bitter disappointment is like a wound that opens afresh." It says much for Schweinfurth that he penned these words when all Europe and America were ringing with his fame, and he was the man whom princes and learned men delighted to honour.



*PREJEVALSKY'S EXPLORATIONS IN
EASTERN HIGH ASIA.*

COLONEL PREJEVALSKY may be called the Schweinfurth of Eastern High Asia. A love for natural science, which developed itself very early in life, led him to apply for permission to serve in Eastern Siberia. The two years spent there were mostly filled up by him in hunting, shooting, and collecting objects of natural history. Returning to St. Petersburg in 1869, he published his "Notes on the Ussuri," and the following year commenced preparations for a much more important expedition to the heart of the great Chinese Empire, an expedition which, he says, had been the dream of his early childhood. He was sent out by the Imperial Geographical Society of St. Petersburg under the sanction of the War Department, and had for his companion and helpmate Lieutenant Pyltseff. With the exception of

not losing his botanical and natural history collections, the story of Prejevalsky's wanderings, privations, adventures, unconquerable perseverance, and unquenchable scientific enthusiasm in the deserts and mountains of Mongolia will lose little by a comparison with those of Schweinfurth.

It was early in November, 1870, that, after posting through Siberia, the gallant colonel and his companion arrived at Kiakta, a border town where the journey was to begin. Feeling that it would be best under any circumstances to secure a passport from the Chinese Government, Prejevalsky determined to go to Peking in order to secure one. Arrangements were made with a tea-merchant for the transport of the expedition and its luggage by means of camels to Kalgan. A week's journey through a hilly but beautiful and fertile country brought them to Urga, the chief town of Northern Mongolia. The great desert of Gobi, "which extends like an enormous girdle across the plateau of Eastern Asia, from the western spurs of the Kuen-lun to the Khingan Mountains, which divide Mongolia from Manchuria," was now before them. This boundless steppe, without trees or shrubs and almost destitute of grass or water, scorched with heat in summer and chilled with icy cold in winter, produces on the traveller a sense of weariness and depression. "For weeks together the same objects are constantly before his eyes: cheerless

plains, covered in winter with the yellowish withered grass of the preceding year, from time to time broken by dark rocky ridges, or by smooth hills, on the summit of which the swift footed antelope (*antelope gutturosa*) occasionally casts a light shadow. With heavy measured tread the laden camels advance ; tens, hundreds of miles are passed, but the changeless desert remains sombre and unattractive as ever. . . . The sun sets, the dark canopy of night descends, the cloudless sky glitters with myriads of stars, and the caravan, after proceeding a little further, halts for the night. The camels show unmistakable satisfaction at being freed from their burdens, and lie down at once near the tents of their drivers, who busy themselves in preparing their unsavoury meal. In another hour men and beasts are asleep, and all around reigns the deathlike silence of the steppe, as though no living creature existed in it." Such is the description Prejevalsky gives of his tedious and monotonous journey across the Gobi. Had it not been for passing tea caravans, and the occasional sport the birds and antelopes afforded, the journey must have been wretched in the extreme. After five days spent at Kalgan, a town important both as a trade centre and as commanding a pass through the great wall of China, Prejevalsky and his companions started for Peking on horseback, a distance of some 140 miles. The Chinese have a supreme hatred of Europeans, whom they style

"foreign devils," and as a consequence the Russians found some difficulty in securing accommodation on the road, but notwithstanding they succeeded in reaching the far famed capital of the East in safety.

At Pekin our travellers spent two months enjoying the cordial hospitality of their countrymen and making preparations for their intended journey. The time, however, was unfavourable, through the Mohammedan rebellion which was then at its height in North-west China, and Prejevalsky determined meantime to go on a preliminary tour to Dolon-nor and the salt lake of Delainor in Eastern Mongolia. Having bought seven pack-camels and two riding horses, he proceeded to arrange the baggage and supplies for a twelvemonth as far as was consistent with the low state of his finances. Here let us say that it reflects little credit either upon the Russian Government or the Geographical Society that two such eminently well qualified and fearless explorers as Prejevalsky and Pyltseff should have been allowed to suffer as they did all the three years they were in China for want of money. The first year their united incomes amounted only to a beggarly £300, and in the second and third to no more than £500, and out of this they had to pay the salaries of two Cossacks and meet all expenses. The shallowness of their purses compelled them to do work from which they ought to have been exempted, and hindered them in their scientific

observations. They had to load the camels themselves, to pasture them, to collect fuel, and to go without animal food at times when they could not shoot any game, because they could not afford to buy a sheep. "On returning to Pekin," says Prejevalsky, "after the first year, I could not help smiling on hearing a member of one of the foreign embassies inquire how we managed to carry about with us so large a quantity of silver, gold not being current in Mongolia. What would this gentleman have thought of us if he had known that on starting from Pekin we only took £65 in cash?" Not a very large sum *that* to face a whole year of travel with in a strange country! All honour to the men who were not deterred from their object under such circumstances. Their *impedimenta* on the occasion consisted mainly of guns and ammunition, the necessary apparatus for preparing and drying specimens of plants, a case of French brandy, 36 lbs. of sugar, two sacks of rice, and about £40 worth of small articles to assist Prejevalsky in his assumed character of merchant. No Mongol or Chinaman could be induced to accompany them on their wanderings, and accordingly they left Pekin on March the 9th, 1871, a party of four.

At Dolon-nor, which they reached in about three weeks, they were obliged to lodge in a temple, because the innkeepers one and all refused them shelter on one pretext or another. They remained in this place,

however, but one day, and then started for Lake Dalai-nor, a hundred miles further to the north. This salt-water lake is the largest of South-east Mongolia, being about forty miles in circumference, and is bounded on the north and east by saline plains, on the west by rolling steppes, and on the south by the Guchin-gurba hills. It lies at an elevation of 4200 feet, and therefore, as may be imagined, the ice is not completely melted until the month of May. Situated in the midst of wide plains, it is a great rendezvous for migratory birds belonging to the orders *Natatores* and *Grallatores*, and Prejevalsky therefore found plenty to do in a study of these birds and their habits. Thirteen days only were spent on the shores of the lake, and then, being desirous to reach Kalgan, Prejevalsky retraced his steps to Dolon-nor. The survey of the country which he desired to make was by no means an easy task. This was mainly owing to the necessity for secrecy in the work, because if the natives discovered that he was mapping their country, he would have found it next to impossible to pass through the populous district. The plan he had to adopt as a general rule, during the whole of the three years' wanderings, was as follows:—"After taking bearings in the direction we were going and noting the time by my watch, I drew a line in my pocket-book corresponding as nearly as possible with

that of our march; at the end of it I entered the degrees and marked off the intersections with figures in their regular order. Then as we advanced I sketched in the country on either side, taking bearings of the more important objects only. When we altered our course, I calculated the distance we had come, made an entry of it in my note-book, and took fresh bearings for the new direction. This was sometimes difficult to determine when we had no guide; in such case I took several bearings, and afterwards underlined the bearing that proved to be the one followed. It often happened that I was prevented making an entry at any given place, owing to our being watched by Chinese and Mongols: in such case I deferred it to a more suitable opportunity, reckoning the distance we had come backwards to the point of deviation. When travelling in a thickly-populated district, some one or other of the inhabitants would be constantly with us. To avoid observation I would then ride in advance or remain behind the caravan; if a guide were with us, we had figuratively to throw dust in his eyes, which we usually managed in the following way. On first making the acquaintance of the new travelling companion, I would show him my field glass, explaining to him that I was in the habit of looking for game with it. The unsophisticated Mongol did not distinguish between the field glass and the compass, and

as we often shot antelopes and birds, he was fully convinced that I could discover their presence by looking into 'the artful machine.' In this way, time after time, I succeeded in deceiving the officials. When they pestered me with questions and were curious to know why I carried a compass, I would speedily substitute the field glass and place it before them, as I always had it with me on the march. . . . On arriving at the halting-place after unloading the camels, pitching the tent, collecting argols, and doing other necessary work which we shared with the Cossacks, I would transfer to the ruled sheet of paper the survey of that day, taking the precaution of shutting myself in the tent and stationing a guard at its entrance to avoid interruption. But even then visitors would arrive and interfere with my work, which could not be resumed till they were got rid of, when I would finish and put it by till the following day."

At Kalgan the caravan was reformed. Two new Cossacks took the place of the others, who now returned home, and a new camel was bought, making the number eight. The Cossacks had a camel each, and the baggage, weighing about $16\frac{1}{2}$ cwts., was distributed among the other six. The leaders of the expedition rode the horses, and a setter dog, "Faust" by name, which we ought to have mentioned before, followed at their heels. On the 15th of May the

caravan again ascended the Mongol table-land and travelled westward, parallel to its southern margin, until they came to the Zumet country. Here the Mongols proved such a nuisance that Prejevalski determined once for all to throw aside the too transparent guise of the merchant, and simply announce himself as an official armed with a passport from the Emperor, and travelling without any object save that of seeing new countries. The step proved a wise one. Taking now the direction of the Yellow River, the caravan passed through some populous Chinese settlements, where its presence made a great stir and commotion, and then touched the western extremity of the Inshan mountains on the northern bank of the Hoang-ho. These mountains, which are of a wild Alpine character, were very welcome to the travellers after the bleak, cheerless plains they had been crossing. At Bathar Sheilun, one of the most important shrines in South-eastern Mongolia, Prejevalsky spent some days, but not one of the Chinese or Mongols would show him the road over the Munniula mountains. He and his companions were the first Europeans the inhabitants had ever seen, and their appearance caused quite a panic. "The lamas actually consulted the auguries," says our traveller, "and prohibited the Mongols from selling us provisions; this order emanated from the superior of the temple of Himping, and caused us some in-

convenience, for our supplies were nearly exhausted at that time. We hoped to have been able to provide ourselves with food by the chase, but in our ignorance of the localities we did not bag any game for some days, and consequently were obliged to live exclusively on millet porridge. At length I shot a pygarg, and when the Mongols saw they could not starve us out, they began selling us butter and milk." At length the services of a Mongol were secured, and the descent to Bantu on the left bank of the Hoang-ho was safely made.

Hardly however had Prejevalsky entered one of the gates of the town when his passport was demanded. He was then brought into the presence of the commander-in-chief, who questioned him on the object of his journey, and told him it was not safe to go through Ordos. The mention of a Russian watch, however, to be given as a keepsake, changed the mandarin's gloomy view of the matter, and he promised a safe conduct to the caravan through the robber-haunted district. He also ordered some policemen to help the strangers in securing accommodation. This was no easy matter. One after another refused to shelter them, until they were glad to take shelter in "a small and inconceivably dirty apartment" in the house of a merchant. "We unloaded our camels," says Prejevalsky, "dragged everything into the house,

and hoped to get some rest ; but the crowd of people who filled the courtyard and street would not give us a moment's peace. We tried to close the doors and windows, but they were broken, and we were beset by an impertinent mob, some ruffianly-looking soldiers making themselves particularly offensive ; they actually began feeling our persons, until a few kicks caused them to desist and retire a few paces, when they began abusing us. The policemen, incited by the offer of a liberal reward, exerted their utmost to keep the crowd back, and several fights ensued ; at last they succeeded in closing the gates, but the inquisitive rascals climbed on the roof and let themselves down into the yard. This continued till evening, when they dispersed ; and we lay down to rest, worn out with the fatigues of the day. But the heat was so suffocating, and the soldiers lodging in the house kept so continuously and unceremoniously entering our apartment, that we could not sleep, and we rose at daybreak with violent headaches, determined to purchase what we needed, and take our departure as quickly as possible.

“ But no sooner did we venture into the streets than the experiences of the previous day were renewed. The mob surrounded us like a dense wall, despite the energy of the same policemen, who plied their long pigtails like whips on either side to clear a passage. *We had hardly entered a shop before it was crammed*

with people, and its owner, frightened at the invasion of his premises, implored us to leave as soon as possible. At length, with the assistance of our escort, we made our way into the yard of a merchant's house, and bought what we required in one of his back buildings.

"On returning to our quarters we had the prospect of undergoing the same ordeal as on the previous day, but our police guard shut the gates and charged so much a head for admission. I must confess that it was not altogether pleasant to be made a public show of in this way, just as if we were some new kind of wild beasts; however, of two evils it was the lesser: at all events sightseers now appeared in smaller numbers, and behaved in a more orderly way."

They were heartily glad to escape from Bantu, and crossing by the Zermy, touched the fringe of the dreary plains of the Ordos.

Their course now lay westward along the river. In order to rest and study the flora and fauna of the Hoang-ho better, Prejevalsky remained for nearly a fortnight on the shores of Lake Tsaideming-nor. The heat was intense, but there was plenty of cool water to bathe in, and above all there was abundance of food for both body and mind. A long and weary march through sweltering heat brought the caravan at last, with only the loss of Lieutenant Pyltseff's horse, to the town of Ding-hu, a distance of two hundred and ninety

miles from Bantu. Here again the strangers were doomed to know more of Chinese inhospitality and bad manners. The mandarin only allowed them to leave after he had done his utmost to steal some of their most valuable rifles and pistols.

Crossing to the left bank of the Yellow River, the caravan entered the province of Ala-shan, a part of Marco Polo's *Tangut*. Prejevalsky's account of the province is all the more valuable and interesting that it breaks entirely new ground. "Topographically Ala-shan is a perfectly level plain, which, like Ordos, in all probability once formed the bed of a huge lake or inland sea. This fact is evidenced by the level area of the whole region, its hard saline clay and sand-covered soil, and lastly the salt lakes, which are formed in the lowest parts where the last remnant of its ancient waters are collected. The desert of Ala-shan for many dozen, aye, hundreds of miles, presents nothing but naked sands, ever ready to overpower the traveller with their burning heat or smother him beneath their sandstorms. Some of these sands are so extensive as to be called by the Mongols *Tingeri*, i.e., 'sky.' Not a drop of water is to be found in them; no birds, no animals are visible, and their death-like solitude fills with involuntary dread the soul of the man who has wandered there."

On September 26th Prejevalsky arrived at Din-yuan-

ing, the capital of the principality, where for the first time during the expedition he received a hospitable welcome from its prince. By his order three officials came to meet the party and led them to a house previously prepared for their use. Being the first Russians to penetrate to Ala-shan they naturally excited great curiosity among the inhabitants, from the royal family downwards. The prince had many questions to ask—some of them curious enough, such as if it were true that the liquid matter from human eyes is used in photography; and his sons showed the strangers every attention and respect, and gave them some valuable presents. After a fortnight spent in hunting on the Ala-shan mountains, Prejevalsky was compelled to turn his face Pekinwards again. "Unpleasant as it was," he says, "we were obliged to give up our intended journey to Lake Koko-nor, which was only four hundred miles distant, i.e., less than a month's journey. Notwithstanding all our care, amounting almost to stinginess, we had less than a hundred lams (£20) left in money on entering Ala-shan, and it was only by selling our merchandise and two guns that we could get enough money for the return journey. Our Cossacks, too, proved untrustworthy and lazy, and with such a staff we could not undertake a new journey more difficult and dangerous than the one we had accomplished. Lastly, my passport from Pekin only allowed me to go as far as

Kan-su, and we might therefore be refused admittance to that province. With deep feelings of regret, which can only be understood by the man who has reached the threshold of his desires, without having the means of crossing it, I was compelled to submit to necessity and turn back. With his departure from Din-yuan-ing on the return journey to Kalgan, Prejevalsky may be said to have really begun to experience the great difficulties and dangers of his expedition.

The journey to Kalgan through Mongolia a distance of eight hundred miles, had to be performed without a break, and at a time, too, when sharp frosts and winds heralded the approach of winter. The first stroke of ill-fortune came quickly and severely. The caravan had hardly left the mud wall of Din-yuan-ing when Lieut. Pyltseff fell ill with typhoid fever. Prejevalsky had a few drugs, but he feared to administer them through want of confidence in his own medical skill ; and had it not been for the lieutenant's youth, it is a question if he could have pulled through. After a halt of nine days they were compelled to press on and to march from sunrise to sunset every day, although more than once Pyltseff fell from his horse in a fainting fit. Desirous of becoming acquainted with the country on the left bank of the Yellow River, and the mountains which border this part of the valley, Prejevalsky determined to cross the country of the Urutes. No sooner were the Kara-

narín-ula mountains crossed than a sudden change in the weather was experienced. The wind blew a violent gale and drove the fine-powdered snow mingled with clouds of sand right in the face of the traveller. "Large objects ten paces off were invisible," says Prejevalsky; "and we could neither open our eyes nor breathe freely when facing the wind. It was useless attempting to pursue our journey under these circumstances, and we remained in our tent, occasionally issuing forth to clear away the snow and sand-drifts which blocked up the entrance to our humble abode. Towards evening the violence of the snow-storm increased so much that we were obliged to leave our camels out all night, only securing them the following day. The snow lay on the ground several inches deep, forming great drifts in places, and hard frosts continued every day. This unfavourable weather added greatly to the difficulties of our journey, and aggravated the sufferings of my sick companion. The beasts also suffered a good deal from want of food. Two of our camels and one horse soon refused to move, and had to be abandoned, their places being taken by the spare camels which we had got in Ala-shan." In this way the caravan advanced for a hundred miles along the western side of the Karanarín-ula, until crossing to the other side it descended into the valley of the Yellow River. Here again the travellers passed into mild autumnal weather, although

it did not last long. Winter even in the valley came on apace. The water was soon covered with ice although during the day the sun was warm. At the Kundulinggol the expedition rejoined the track of its outward journey, so that from this point no further surveys were necessary, a circumstance which was specially welcome to the leader who had got two fingers frost-bitten while working the compass.

Early in December they left the valley of the Yellow River and ascended by the Shohindaban to the more elevated part of the plateau, where they experienced severely bitter weather. Prejevalsky's description of the nightly camp is sufficiently graphic and interesting to merit quotation : "How well I remember the purple glow of the setting sun in the west, and the cold blue shades of night stealing over the eastern sky. We could then unload our camels and pitch our tent, after first clearing away the snow, which was certainly not deep although dry and fine as dust. Then came the important question of fuel, and one of the Cossacks usually rode forward to the nearest Mongol yurta to buy argols if we had not already laid in a supply. We paid a high price for the argols, but this was a lesser ill ; how much worse was it when they refused to sell them to us, as the Chinese often did ! Once, at our wits' end for fuel, we were obliged to cut up a saddle in order to boil a little tea, and had to content ourselves

with this frugal supper after a march of twenty-three miles in severe cold and snow-storm !

“ When a fire was lighted inside our tent the warmth was sufficient at all events for that part of the body which was immediately turned towards the hearth ; but the smoke irritated the eyes, and when aggravated by dust became almost unbearable. In winter the steam from the open soup-kettle completely filled our tent, reminding us of a Russian bath, only that of course the temperature was very different. Boiled meat became quite cold before we had time to eat it, and the hands and mouth were covered with a layer of grease which had to be scraped off with a knife. And in the stearine candle that lighted us at supper-time, the part close to the wick would burn down so low, that we had from time to time to break off the outer shell, which remained unaffected by the flame.

“ For the night we piled round the tent all the packs, and closed the entrance as tightly as possible ; but notwithstanding all these precautions, the temperature inside our dwelling was very little warmer than out of doors, as we kept up no fire after supper-time until morning. We all slept under fur cloaks or sheep-skin coverings, generally undressing to sleep more comfortably. While asleep we were warm enough, because our whole bodies, head and all, were under the coverings ; and we sometimes added felts over all. My

companion slept with Faust, and was very glad of such a bedfellow. Hardly a night passed quietly. Prowling wolves often frightened our camels and horses, and the Mongol or Chinese dogs would occasionally enter the tent to steal meat, generally paying the penalty of their lives for such unceremonious behaviour. After such an episode how long it was before he whose turn it had been to quiet the startled camels, or to shoot the wolf or thieving dog, could get his blood a little warm again ! ”

A serious accident now befell the expedition. Halting at the temple of Shireti-tsu, about fifty-three miles to the north of Kuku-khoto, the camels were allowed to graze near the tent not far from some camels belonging to other caravans. The animals belonging to Prejevalsky crossed a little hill in search of better food, and from that moment were entirely lost to their owner. The whole neighbourhood and all the caravans were diligently searched, but no traces of them could be discovered. The lamas of the monastery and the Mongol official were appealed to for help, but in vain ; and to add to the bitterness of the hour the Chinese refused to sell straw for the two horses and the one camel which had been saved from the fate of the others only by being sick. One of the horses was frozen to death in the night, and two days afterwards the sick camel *fell down at the entrance of the tent and expired.* The

dead camel, however, became the life of the one remaining horse, which could hardly stand on his legs, for the Chinese, who have a weakness for camel-flesh, gladly took the carcase in exchange for twenty-five trusses of good hay. But what was now to be done? Negotiations with the Chinese to carry the party to Kalgan came to nothing, and it was therefore necessary to send to Kuku-khoto to buy fresh camels. But how were the messengers to get there, as the horse was not fit to be ridden? Another horse was bought at the Mongol quarter, and with it the Cossack and a Mongol went and bought the camels. These were altogether miserable days, for the Europeans could find absolutely nothing to do to fill up their enforced leisure. With the new though very inferior camels they made forced marches to Kalgan, where they arrived late on the 12th of January, 1872.

A period of two months was spent in active preparations for the third expedition. New camels were bought, a good supply of guns and revolvers of the best kinds, together with abundance of ammunition, was laid in. Eighty pounds were spent in securing a stock of merchandize, to be sold at a good profit in Ala-shan, and Prejevalsky acquired, by practice at the Russian Observatory, some acquaintance with practical astronomy. He was still straitened in his means, however, for when the start was made he had only about

£22 in his pocket. The services of two new Cossacks were secured, and the dog Faust found a companion in a savage Mongol dog, rejoicing in the name of "Karza." Having suffered very much in the past through want of water in the hot weather, Prejevalsky took with him this time four flat water-barrels, each holding about eight gallons. On the morning of March 17th the expedition left Kalgan, taking the same route by which it had returned the year before from Ala-shan.

A journey of a little over a month brought the caravan to the Munni-ula range, where Prejevalsky determined to halt in order to observe the flights of small birds, and to collect the spring flora of the mountains. He had intended to return to the Hoang-ho, crossing that river on the ice to Ordos, for the express purpose of watching the migration of birds of passage; but by the time the Munni-ula mountains were reached most of the birds had gone. He therefore gave up this proposed second visit to Ordos. Spring was now coming on with rapid strides, but, disappointed in an anticipated ornithological harvest, the expedition left the Munni-ula on the 4th of May, and ascending the left bank of the Hoang-ho, pressed through the intense heat and over the silent, barren, yellow sandy deserts to Ala-shan. On the 7th of June the travellers arrived safely at Dinyuan-ing, and established themselves in a house specially prepared for their reception. "The inquisitiveness

of the people," says Prejevalsky, "as usual, gave us no peace until we tied our fierce Karza to the gate of our house, where he kept the rascals at a respectable distance. The evening of our arrival we were visited by our friends the Gigen and Siya. My uniform as an officer of the staff, which I had purposely brought with me from Pekin, produced a great impression upon the young princes, who examined it attentively. They were now more than ever convinced that I was a high functionary, perhaps the trusted agent of the emperor himself. They had often questioned me last year about this; but when they saw me appear in a brilliant uniform, their suppositions were entirely confirmed. Henceforward I received the title of *the Czar's officer*, by which I was called during the remainder of our journey. I did not attempt to remove this opinion of my importance, which suited me, inasmuch as it explained the object of our journey. In future the people always said of me that the Tsagan-Khan (white Khan) had sent his officer into their country to see them and their land with his own eyes, that he might return home and tell him everything."

Very soon after the arrival at Din-yuan-ing an opportunity presented itself of getting to Lake Koko-nor in the train of a Tangutan caravan, which was on its way to the temple of Chosten, in the province of Kan-su. The Tangutans were well pleased at the proposal,

because of the protection the strangers would afford them in case of an attack by the hated Dungans (Mohammedan Chinese), then in open revolt and insurrection. But the prince, from whatever motive, did all in his power to prevent the carrying out of this arrangement. At last, after a most vexatious delay, the Europeans managed to carry their point, and at once joined the Tangutan caravan. They found their companions, or rather escort, not altogether an unmixed good. Obligated to keep pace with the caravan, the four found it no easy task to manage their nine camels. Prejevalsky had failed to secure the assistance of a Mongol, while it was with the greatest difficulty he succeeded in inducing some of the Tangutans to allow his camels to pasture with theirs at night, even on the payment of half a crown a day to the watcher. "As for the other work," he says, "we had to do it all ourselves, and could find no spare time even to think of science on the road."

The journey alone was very trying. "We generally rose about midnight in order to avoid the heat of the day, and marched from twenty to twenty-five miles, or even more sometimes, to the halting-place, which was usually near a well; but if there were none near, we would dig a hole in the ground in which the salt water would collect. Some of our companions had often made the journey before, and knew the way

perfectly across these deserts. They could tell directly which were the most likely places for water: in some places the precious fluid was not more than three feet below the surface. In most of the roadside wells it was generally very bad, and, to make it worse, the Dungans often threw into them the bodies of dead Mongols. I cannot help shuddering now when I remember how one day, after having drunk tea, we proceeded to give some drink to the camels, and discovered the putrid carcass of a man lying at the bottom of the well from which we had drawn water for our own use. We could not sleep at the halting-places because of the great heat of the soil and the stifling atmosphere. Notwithstanding which we had to remove the pack saddles of the camels to prevent their backs from becoming sore, as they infallibly would in the hot weather if we had neglected this precaution. It took us an hour to water our camels—a tedious process, which had to be performed every day in hot weather, each camel consuming on an average six gallons at a time. Even at night our rest was disturbed owing to excessive exhaustion.” A good deal of annoyance had also to be endured from the curiosity and suspiciousness of the Tangutans, who were sorely exercised by Prejevalsky’s plant-collecting, journal-writing, and meteorological observations.

The travellers now experienced the truth of the

saying, that "extremes meet." The great barren, treacherous sand-drifts they had been crossing abruptly terminated, and their eyes fell upon cultivated fields, flowery meadows, Chinese farm-houses, and the matchless beauty of the Kan-su mountains. The caravan halted at the small town of Ta-jing, about a mile beyond the great wall, which is here but a much-dilapidated mud structure. Having laid in a stock of leavened bread—a rare commodity in China—they resumed the march, choosing the mountain paths and districts depopulated by the Dungans in preference to the more direct route, which would have brought them into unpleasant contact with Chinese authorities and soldiers.

On the mountains the Russians found abundance of new plants and fresh specimens of birds, but the atmosphere was so saturated with moisture that it rusted their guns and destroyed their collections. The Tatung-gol, a very rapid stream, was safely crossed, but the illness of one of the Cossacks compelled the Europeans to halt five days near the temple of Chertinton, while their Tangutan companions passed on to Chosten. The enforced halt was very agreeable to Prejevalsky and Pyltseff, who made excursions into the mountains to study their flora and fauna. Being told that their pack-camels could not pass the range on the right bank of the Tatung, they left them and the horses, and

hired Chinese to carry the baggage on mules and asses to Chosten. At this temple, which boasted of a copper-gilt statue of Buddha fourteen feet high, and sheltered one hundred and fifty lamas, and 1,000 militia, for defence against the Dungans, besides pilgrims, they abode a week making preparations for a summer expedition to the mountains. On the 22nd of July they started with four mules and two horses for the Tatung valley near Chertinton. They moved about from place to place on the mountains, staying only as long as was necessary in one spot. "The daily rains," writes Prejevalsky, "and excessive humidity greatly interfered with our pursuits, increasing the difficulty of drying our plants and skins, and obliging us to seize every opportunity afforded by the short intervals of fine weather for the preservation of our collection. The constant rains in the Alpine zone were often accompanied by snow and frosts at night, the birds, too, were all moulting at this season, and hardly ten per cent. of those we shot were fit for preserving. But the plants, at all events, in July, were in full flower, and we secured three hundred and twenty-four varieties out of 8,000 specimens; whereas we obtained only two hundred birds. Insects were very scarce, not only in the Alpine region, but even in the lower ground. This was certainly a drawback to our entomological collection; on the other hand, we felt grateful for

being spared the plague of mosquitoes and flies, from which I had experienced such tortures during my wanderings in the forests of the Amur. We could not spare time to hunt large game, which is scarce, and during the whole of our stay here I only shot two wild sheep, which, with two small yaks, bought of the Tangutans, supplied us with provisions." These mountains form the native region of the famous rhubarb plant, and our travellers were very possibly the first in modern days to see it as it grows "at home." By the end of August autumn had set in with such rapidity that the leaves became yellow, the grass withered, and most of the birds disappeared in search of a warmer climate and more abundant food in the valleys; accordingly, the Europeans lost no time in returning to Chosten.

When they returned to the temple they found that in their absence the Dungans had waxed so valiant and impertinent as to ride up to the walls and taunt the defenders. "Where are your Russian friends now with their good guns?" they said; "we have come to fight them." The militia, though now 2,000 strong, seemed powerless to suppress these robbers, and everybody was glad when the Europeans returned. The temple was so crowded, however, that they were obliged to camp out at a distance of half a mile in an open grass plain. Here every possible precaution was

taken against attack. The boxes containing the collections, the bags of supplies and provisions, and pack-saddles were formed into a hollow square, within which they could retire in case of an attack. Before night the camels were made to lie down round the improvised fortification, where they were tethered in order to prove an additional protection against a mounted enemy. With commendable foresight Prejevalsky measured distances all round with piles of stones to prevent unnecessary waste of ammunition. The rifles with bayonets fixed, and flanked with piles of cartridges and ten revolvers, stood handy within the square. For three days they kept watch and guard, but whether from a wholesome fear of the Russians' rifles, or some other reasons best known to themselves, the robbers did not come to carry out the swaggering threat.

A few days after having obtained guides they started for Lake Koko-nor. Prejevalsky's great ambition to go from thence to Lhasa in Thibet had to be relinquished through want of funds. Their route lay over the mountains between two Dungan towns by footpaths almost impracticable for their enfeebled and suffering camels; accordingly, the luggage was divided among all the pack animals, and a mule was taken in addition. On the third day they had an encounter near Tatung with about a hundred mounted Dungans escorting a

flock of sheep. "On observing us," writes Prejevalsky, "they fired a few shots and closed the defile through which we were marching. The effect of this manoeuvre upon our guides was astonishing. Paralyzed with fear, they muttered their prayers in a trembling tone of voice, imploring us to return; but we knew very well that retreat would give courage to the enemy, who could easily have overtaken us on their horses, and we therefore determined to force a passage. We were four well-armed and resolute men; as we marched ahead of our caravan, the guides followed with the camels, and were only prevented from deserting by our threat of shooting the first who turned back. The danger was great, but there was no help for it, and we had full confidence in the excellence of our arms and the well-known cowardice of the Dungans. Our calculations proved correct. On observing our forward movement, the Dungans fired a few more shots, and before we had approached within range, fled to either side of the high road at right angles with our advance. Leaving the defile, we crossed the road and began the ascent of a very steep high pass. To add to our difficulties, night came on and a violent snow-storm overtook us, rendering it extremely difficult for the camels to keep their footing. The descent was even worse; we had to feel our way down in the dark, stumbling and falling at every step. After an hour's

advance, we halted in a narrow defile covered with brushwood, where we had the utmost difficulty in pitching our tent and lighting a fire to warm our benumbed and bruised limbs." No further accident or adventure worth recording befell the travellers, although the way was mountainous and rough, and on the 25th of October their tent was pitched on the shore of Lake Koko-nor. "The dream of my life was accomplished," writes the leader, "and the object of the expedition was gained. It is true that this success had been purchased at the cost of many hardships and sufferings; but all past trials were forgotten, as we stood in triumph on the shore of the great lake, and gazed with admiration on its beautiful dark blue waters." This lake, which lies a height of 10,495 feet above the level of the sea, is about two hundred or three hundred miles in circumference, with flat and shelving shores. The water is salt and undrinkable, but the saltiness imparts a beautiful dark blue colour to the surface. Many streams flow into it, and it is only rarely and for short intervals calm. About the middle of November strong winds prevail and the lake freezes, remaining ice-bound till the end of March. It abounds in fish, but there are no more than a score or two of Mongol fishermen on its shores, who send all they catch to the town of Tonkir. In the western part of the lake there is a rocky island, six or seven miles in compass, and

about fourteen from the shore, on which there is a small temple inhabited by ten lamas. These men have no communication with the mainland during summer, as they have no boat and don't understand the use of one. Pilgrims cross the ice in winter and bring them presents of butter and barley meal.

The travellers enjoyed fine autumnal weather every day of their stay, and enjoyed themselves on the steppes hunting and pursuing the study of natural history. Here they met with the Alpine hare and wild ass in great numbers. Having bought fresh camels, there remained but £27 10s. in the purse of the expedition. With this pittance it was impossible to think of reaching Lhasa; but the undaunted leader determined to go as far as he possibly could, and when he could go no farther then turn back and go home. The Tangutan and Mogul military officials provided him with two guides, and striking tent, the caravan moved along the northern and western shores of the lake. At Dulan-kit Prejevalsky received much kindness from the uncle of the young prince. He not only presented him with a yurta, or Mongol tent, but forbade the people from entering the tent of the strangers except on special business. This was the first and only time during the expedition that they lived near the natives without being disturbed by them. Privacy at this time was doubly precious, because the intrusiveness of the people threatened to be specially

objectionable, owing to a widespread report that Prejevalsky was a great saint of the West on a pilgrimage to the Dalai-Lama, or great saint of the East, who resides at Lhossa. Both Tangutans and Mongols came in crowds, not only to pray to him, but to his guns, and to ask his blessing as well as his advice and help in the recovery of lost cattle or pipes. The circumstance favoured the travellers by lessening the difficulties of the road, and accordingly they kept up the illusion by every means in their power. Prejevalsky says, "I had to play not only the saint but the doctor also. The latter title was given to me in the early months of the expedition, owing to my plant-gathering habits, and to the successful cures which I afterwards performed on some fever patients with doses of quinine; quite enough to convince the Mongols firmly of my powers of healing. My fame spread far and wide throughout Mongolia, Kan-su, Koko-nor, and Tsaidam. In the two latter countries numbers of sick persons, especially women, came to consult me upon their maladies. Being entirely ignorant of medicine, and having only a small supply of drugs, and without either time or inclination for such work, I usually had recourse to one of the most impudent quackeries that ever appeared in the medical world, my *Baumsteilismus*, a system which professes to cure every ill that the flesh is heir to by puncturing the skin of the affected part with a bunch

of needles set on a spring, and afterwards rubbing in an ointment. I had taken one of these instruments with me in some kind of prevision of its utility. If Dr. Baumsteil, the inventor of this marvellous panacea, be still alive, he may take pride in learning that his discovery was welcomed with enthusiasm by the inhabitants of Koko-nor, who regarded the needle-spring as a sacred thing received almost direct from Buddha himself! I subsequently presented it to a Mongol prince, who at once began to practise with it on his *aides-de-camp*, although they had nothing earthly that ailed them. . . . My patients, however, were not satisfied with the operation of *Baumsteilismus* only, they asked us to give them internal remedies as well. We usually administered doses of salts, tincture of peppermint, and soda powders, sometimes, as in cases of cataract, magnesia, simply to rid ourselves of them. Our stock of medicines, however, was at last exhausted, and we had to fall back upon the needle-spring, which never failed us to the end of the expedition." The people also believed that though the strangers were only four in number, a thousand men would rise up and fight for them at their call.

Resuming their march, the mountains were soon left behind them, and the travellers entered the great level plain of Tsaidam. This plain, which is one vast salt marsh covered with reeds four to six feet high, was, in

Prejevalsky's opinion, the bed of a great salt lake at a comparatively recent geological age. The Mongols affirmed that the marshes extended for fifteen days' march W.N.W. from the point where the Europeans crossed it. Lake Koko-nor they also said was only distant a month's journey, and Prejevalsky had a sore disappointment in not being able to get there, because he would then have been able to set at rest the much-vexed question of the existence of the camel in a wild state. It may as well be said here that the weight of testimony is so great that few naturalists will care to deny that camels do exist in a wild state in this region. The course of the caravan lay in a straight line across the salt marshes for forty miles, as there were no tracks. The salt crust gave way to frozen clay, which made walking very painful for the animals. Some of the camels were lamed and the dogs could hardly put their bleeding feet to the ground. At the station of the governor of the banner of Tsung-yasak, where the travellers arrived on the 30th of November, they employed the services of a guide to Lhasa, thinking it best to conceal from the prince the abandonment of their intention to go so far. Next day, under the leadership of this intelligent old man, they set out for the lofty and uninhabited desert of Northern Tibet.

The route led them up the high Burkhan Buddha mountains to such an elevation that, though the ascent

was very gradual, the exertion to both man and beast was severe, through the rarefaction of the atmosphere. The strength of the travellers failed them, breathing became difficult, their heads ached and grew dizzy, while feelings of great lassitude stole over them. One of the camels fell down and expired, and the others were able to surmount the pass with the greatest difficulty. The descent, which was even more gradual than the ascent, continued for fifteen miles to the lowest elevation of their entire route across Northern Tibet; but that was 11,800 feet above sea level. Although they had taken as light a load as possible, the Europeans were compelled to bury their spare ammunition under some stones near the summit of the pass, and afterwards they also buried in the sand two yak skins, which, however, they picked up on the way back.

The two months and a half spent in this region were the most arduous of the whole expedition. What with severe winterly weather, and the lack of even the bare necessities of life at times, it became a hard struggle for existence, and only the scientific importance of the journey could have sustained the leader under such trying circumstances. The travellers found the yurta more troublesome to manage than the tent, but also a deal more comfortable. It was eleven feet in diameter, and nine feet high from the ground to the aperture in the roof. The sides and roof were covered with three

layers of felt, while inside the sides were lined with orongo skins. Entrance was obtained by crawling through an opening in the side three feet square. "The interior did not admit of much comfort," writes Prejevalsky. "Here stood two boxes (containing journals, instruments, &c.), besides felts for sleeping upon, whilst our arms were ranged round the sides, and an iron grate stood in the centre, in which argols were continually burning during the day, to cook our food and afford us some warmth. Towards evening, and particularly after undressing for the night, sundry articles of apparel might be seen suspended from the lattice work of the sides, and from the rafters supporting the roof. Such was our home during the whole of our arduous winter journey in Tibet. Two hours before daybreak every morning we rose, lighted the argols, and boiled our brick tea, which, mixed with some barley-meal, served for our breakfast. Sometimes for a change we baked either Zaturan * or wheaten cakes in the hot argol ashes. As soon as the day dawned we made preparations for the march, by taking the yurta to pieces and packing it with the other baggage on the camels. All this occupied a good hour and a half, so that by the time we were ready to start we already felt tired. Sometimes it was so cold, and the wind

* A soapy compound of brick tea and flour baked with butter and salt.

was so keen, that we could not sit on horseback, yet the exertion of walking, encumbered as we were with some eighteen pounds' weight in the shape of gun and ammunition, was often too much for our strength at that terrible elevation, where every additional pound told, and we constantly suffered from those distressing symptoms caused by the extreme rarefaction of the atmosphere.

“Our warm clothing, too, was so worn out by two years' use as to be a most ineffectual protection against the cold, our fur coats and trousers being in tatters. As for boots we had none, and were reduced to sewing bits of yak-hide to old leggings, as a covering for our feet in the coldest weather.

“Frequently, towards midday, the wind would increase to the violence of a hurricane, filling the air with sand and dust, and making further progress impossible while it lasted, and we would be compelled to halt, although we had gone only six or seven miles. But even in the finest weather a march of twelve miles on those lofty plains is more exhausting to the strength than double that distance at a lower elevation. On arriving at the halting-place our first duty was to unload the camels and set up the yurta, which took us another hour. The next was to collect argols, break ice for water, and then we had to wait, hungry and tired, till the water boiled. How we used to relish the

nasty compound of butter and barley-meal, glad enough even to get that!" After this meal Prejevalsky would either write up his journal or go hunting with his comrade until dinner-time, which was about six or seven o'clock. To the cook the preparation of dinner must have been no easy matter. Not only had he to use the axe for breaking the ice and chopping the frozen meat, but he had to tinker the worn-out pot before he could put anything in it with raw hide and barley-meal paste. This tinkering had to be done every day until the utensil was effectually patched with the copper cartridge cases of a Berdan rifle.

The evening meal over, two buckets full of water had to be melted for the horses, and then the long weary winter's night was before the travellers. Sound sleep was seldom enjoyed. Their beds consisted of pieces of dusty felt of a single fold laid on the frozen ground, and as they lay there for ten consecutive hours every night, the dry rarefied air produced "a choking sensation like a heavy nightmare," and their lips became dry and parched.

Shooting was the most pleasant occupation of the days, but that even was far from being an unmixed pleasure. The wind not only impeded their movements, but seriously afflicted their firing by filling their eyes with tears, while their hands, in spite of warm gloves, often became so benumbed with the cold that

they had to rub them before placing a cartridge in the chamber of a breechloader. The cold also so contracted the metal that they were compelled to use ramrods to get the empty cartridge cases out of the Snider rifle. Another source of trouble to the travellers were the frequent and violent dust storms, which always occurred in the daytime. "They would begin," says Prejevalsky, "with a moderate gale, gradually increasing in violence until midday, when they would continue to rage like a hurricane till sunset. By degrees the sky assumed a dust colour, growing thicker and thicker until the sun shone dimly, and at length was quite obscured from sight. Sand and small stones were carried through the air like hail or snow. We could neither open our eyes in the face of the wind nor draw breath, and so charged was the air with fine dust that it could hardly pass into the lungs, and camels let loose to graze would forget their hunger and throw themselves on the ground."

On the 22nd January, 1878, the Europeans reached the banks of the Yangtse-kiang, or Blue River, the limit of their wanderings in Inner Asia. Although within less than a month's journey of Lhassa, it was beyond their reach. The journey across the desert had so exhausted the animals that three out of the eleven camels had died, and the rest could hardly move. The exchequer was never at a lower ebb, for when an

exchange of camels had been made for the return journey to Tsaidam, the travellers had *twenty-seven shillings and sixpence* to take them back over many hundreds of miles of road.

Retracing their steps, they found Lake Koko-nor entirely frozen over, and the surrounding plains clothed with yellow, withered grass, for the most part trampled under foot by wild asses, antelope, and Tangutan cattle. Mirages were so frequent and so delusive, that it was impossible to shoot any large animals with the rifle: they appeared to float in the air, magnified to twice their natural size. Hoping to observe the flight of birds, Prejevalsky resolved to remain by the lake till the end of April, and therefore pitched the *yurta* at the mouth of the Pouhain-gol. But though the weather steadily improved, the dearth of birds was so great that the camp was broken up by the 13th of the month, and the march to Chosten was resumed. Half the camels, however, were unfit for work, and how were their places to be supplied when the purse was empty? Three were secured in exchange for three revolvers, and some one provided saddles in return for the felt tent. Two other revolvers were sold for £18, which then must have seemed quite a small fortune.

The travellers experienced great difficulty in crossing the Kan-su mountains owing to the slipperiness of the paths after the night frosts. "Our loads," writes the

dauntless leader, "increased in weight by the excess of humidity, lay heavier on the camels' backs without the slightest increase of advantage to us, and these animals, from lying on the damp ground at night, began to cough and grow thin. Our unshod horses were continually falling on the slippery paths, so that we ourselves had to go on foot—an exercise for which the makeshift boots we had improvised out of old leggings and yak-hide were no better adapted than the thick solid feet of the camels. To add to our troubles, we had twice to ford the Tatung-gol; the first time over the ice, which had settled to the bottom of the river, and the second time through four feet of water, in a place where the current was rapid and the channel full of huge boulders. Had one of our camels missed its footing here, it must inevitably have been drowned with the precious burden of our collections. Besides other work, I had now to survey the route back from the Murni-ussu, having purposely avoided doing so on the outward journey in order not to excite the suspicions of our guides." Chosten was reached on the 27th of April, but here the Europeans remained only two days before starting for the mountains where they had passed the previous summer.

It was now spring; the flowers began to appear, and the birds and butterflies were abroad, but there was *little fine* spring weather. Wind and snow continued

till the second week of May. The boxes and stores which had been left at Chertinton were sent for, and Prejevalsky was then able to rejoice in a good pair of boots. Among the stores fortunately were five pounds of sugar, which, to the Europeans deprived so long of the comforts of civilization, came as a great treat. Animal life soon began to display great activity, and every day a number of most interesting specimens was obtained. The rock-partridge, the long-eared pheasant, and the snow-vulture were among the birds which drew the special attention of Prejevalsky. When it was impossible to remain any longer in the neighbourhood of Chertinton through the finances, long reduced to a few ounces of silver, the travellers pushed on toward Ala-shan. They had experienced to the full the unsettled and inclement climate of the mountains, but the variety and abundance of the scientific harvest they had reaped there made them regard their stay as the best part of the whole enterprise.

Once more the great boundless sea of barren sand was before them. This time they were not able to afford a guide, and as Prejevalsky had been able only to note down by stealth and often at haphazard the landmarks and direction of the route when he crossed it on the outward journey, the chances of losing the way were very great. Once before reaching Din-yuan-ing, they lost the track and passed a terrible night of

suspense, but the next day they succeeded in recovering it. "Exhausted with fatigue," says Prejevalsky, "half-starved, unkempt, with ragged clothes and boots worn into holes, we were regular tatterdemalions! So completely had we lost the European aspect that, when we arrived at Din-yuan-ing, the natives remarked that we were the very image of their own people!" But all past troubles were soon forgotten in the joy of finding letters and newspapers from home. A remittance also from General Vlangali of Pekin was waiting them, and if it had not, we cannot help remarking, what would they have done?

Before proceeding further, Prejevalsky proposed to rest by exploring more thoroughly the mountains of Ala-shan. Three weeks spent among these mountains led him to the conclusion that they were rich neither in flora nor in fauna. An occasional song-bird was to be heard in the early morning or late evening, but during the day a desert-like stillness pervaded everything. Here they were overtaken by one of the most violent rain storms they had yet experienced. Had another foot of water been added to the torrent which was sweeping everything before it along the ravine, the collections, the fruit of the expedition, would have certainly been lost.

Returning to Din-yuan-ing, Prejevalsky bought new camels and hired two guides to take him by way of the

Central Gobi to Urga, a route which had never as yet been travelled over by any European. Very few, we opine, after reading Prejevalsky's account of his terrible journey by this route, will care to follow him. The heat at midday rose to 118° Fahr. in the shade, but no sooner had the sun risen above the horizon than it scorched the travellers most unmercifully. The ground was like an oven underfoot, and the wind, instead of cooling the atmosphere, only stirred the lower strata and made it more intolerable. The tent was no protection, for though they poured water on it and on the ground inside, it soon evaporated and left it hotter inside than out. Still greater suffering, however, was in store for them. One day the guide evidently lost his reckoning, for the wells, which he promised the travellers were just ahead, were never reached. Although it was nearly midday and the heat terrible, they pressed forward to a third, which he said was only four miles distant. The story from this point must be given in Prejevalsky's own words. "A strong wind stirred the hot lower atmosphere, enveloping us in sand and saline dust. Our animals suffered frightfully, especially the dogs, obliged to walk over the burning sand. We stopped several times to give them drink, and to moisten their heads as well as our own. But the supply of water now failed! Less than a gallon remained, and this we reserved for the last extremity. 'How much further is it?' was

the question we constantly put to our guide, who invariably answered that it was near, that we should see it from the next sandhill or the one after; and so we passed on upwards of seven miles without having seen a sign of the promised well. In the meanwhile the unfortunate Faust lay down and moaned, giving us to understand that he was quite unable to walk. I then told my companion and guide to ride on, charging the latter to take 'Faust' on his camel as he was completely exhausted. After they had ridden a mile in advance of the caravan, the guide pointed out the spot where he said the well should be, apparently about three miles off. Poor Faust's doom was sealed; he was seized with fits, and Mr. Pyltseff, finding it was impossible to hurry on, and too far to ride back to the caravan for a glass of water, waited till we came up, laying Faust under a clump of *Saraul* and covering him with saddle felt. The poor dog became less conscious every minute, gasped two or three times, and expired. Placing the body on one of the packs, we moved on again, sorely doubting whether there were really any well in the place pointed out by the guide; for he had already deceived us more than once. Our situation at this moment was desperate. Only a few glasses of water were left, of which we took into our mouths just enough to moisten our parched tongues; our bodies seemed on fire, our heads swam, and we

were close on fainting. In this last extremity I desired a Cossack to take a small vessel and ride as hard as he could to the well, accompanied by the guide, ordering him to fire at the latter if he attempted to run away. They were soon hidden in a cloud of dust, which filled the air, and we toiled onwards in their tracks in the most anxious suspense. At length, after half an hour, the Cossack appeared. What news does he bring? and spurring our jaded horses, which could hardly move their legs to meet him, we learned with the joy of a man who has been snatched from the jaws of death that the well had been found! After a draught of fresh water from the vesselful that he brought, and having wet our heads, we rode in the direction pointed out, and soon reached the well of Boro-Sondji. It was now two o'clock in the afternoon, we had therefore been exposed for nine consecutive hours to the frightful heat, and had ridden upwards of twenty miles.

"After unloading the camels I sent a Cossack back with the Mongol for the pack which had been left on the road, by the side of which our other dog, who had been with us nearly two years, was laid. The poor brute had lain down underneath the pack, but was still alive, and after getting a draught of water he was able to follow the men back to camp. Notwithstanding the complete prostration of our physical and moral energies,

we felt the loss of Faust so keenly that we could eat nothing and slept but little all night. The following morning we dug a small grave, and buried in it the remains of our faithful friend. As we discharged this last duty to him, my companion and I wept like children."

The course now lay due north without so much as a track, and after crossing some spurs of the Kara-narin-ula, the travellers entered the country of the Urutes. They were now in the wildest part of the Gobi, a part in comparison with which Prejevalsky says the deserts of northern Tibet might be called fruitful. "There, at all events, you may often find water and good pasture land in the valleys; here there is neither the one nor the other, not even a single oasis; everywhere the silence of the Valley of Death." Scorched with the sun by day, and prevented from sleeping at night through the severe heat and frequent storms of wind, they struggled on until, well-nigh worn out with privation and sufferings, they entered Urga on the 17th September. "I will not undertake to describe the moment when we heard again our mother-tongue," writes Prejevalsky, "when we met again our countrymen, and experienced once more European comforts. We inquired eagerly what was going on in the civilized world; we devoured the contents of the letters awaiting us; we gave vent to our joy like children; it was only after a few days

that we came to ourselves, and began to realize the luxury to which our wanderings had rendered us for so long a time strangers. The contrast between the past and the present was so great that what we had gone through appeared like a horrible dream." Thus practically ended an expedition which had extended over three years, covered some 7,000 miles, and had secured many thousand specimens of plants, birds, reptiles, fishes, and insects, of which many were new species. We agree with Colonel Yule in saying, "The journey and its acquisitions form a remarkable example of resolution and persistence amid long-continued toil, hardship, and difficulty of every kind, of which Russia may well be proud."





*COMMANDER MARKHAM'S WHALING
EXPERIENCES.*

THERE is no more thrilling or romantic chapter in the whole history of exploration than that which belongs to the Arctic regions and the North Pole. The great mystery of that undiscovered land of grim and icy desolation has thrown an irresistible spell over many brave and adventurous spirits, only apparently to crush their hopes and destroy their lives after unspeakable hardships and sufferings borne with exemplary fortitude and patience. Surely a Syren, and not the proverbial Scotchman, will be found at the Pole when it is reached, for it seems in vain that our modern Ulysses are tied to the mast and have their ears filled with wax by a niggard public or an unscientific government: the spell is still being woven that lures them to the North. Commander Markham, in whose mind the Arctic regions had always been asso-



COMMANDER A. H. MARKHAM, R.N.

From a photograph by Elliot and Fry.

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ciated with that "indescribable longing which is usually connected with all things difficult of attainment," could not resist the opportunity which was afforded him in 1878 of proceeding on a sort of trial or apprenticeship trip to these regions on board a Dundee whaler. His object was to gain experience in Arctic navigation by witnessing the methods of handling steam vessels in the ice, and by collecting information respecting the state of the ice in the upper part of Baffin's Bay, with a view to a possible future exploring expedition. The aim was thus definitely enough a scientific one, but the trip enabled the gallant sailor to accomplish another and a very praiseworthy end—viz., to do justice to the seamanship, the vicissitudes, and daring of the modern whale-fishers. These men, by the aid of steam, face year by year "that middle ice which for half a century has been the bugbear of the whale-fisher," and cut their way through it in as many hours as their predecessors required days. Easy as this may seem in reading of it, or as comparing it with the terrible difficulties that beset the path of the first whalers, the coolness, courage, endurance, and, as we have said, seamanship required are such as many a renowned and titled commander might envy. But the exploits of the whaler are not matters of special interest to the nation, and so his bravery does not receive the meed of praise it deserves. All thanks to Commander Markham, who was content

to live on board one of their ships as one of themselves, and to share with them their excitements and dangers, and who, by the publication of the journal he kept, has done something to bring into notice a class of men who, if rough and superstitious, have at least no superiors in courage and daring.

The whaling trade of Great Britain is at present limited to the ships of two Scottish ports, Dundee and Peterhead. The former sends out annually to Davis' Straits no fewer than ten fine and powerful steamships, commanded by brave and experienced men. Proceeding to sea about the beginning of May, the whalers spend a fortnight or three weeks in fishing in the neighbourhood of Frobisher's Straits, and then make for Melville Bay, along the east side of Davis' Straits and Baffin's Bay. The passage through Melville's Bay is very hazardous, but if successfully accomplished "the ship emerges into the north water, when her course is altered to the westward as much as the state of the ice will admit, until she arrives on her fishing-ground at the entrance of Lancaster Sound, as far as Prince Regent's Inlet. The whales, whose habits are most migratory, are then followed, during the months of August and September, as far south as Home Bay, and even as far as the Gulf of Cumberland, when the approach of winter warns the captain of the danger of remaining too long *in those sterile and inhospitable regions of snow and*

ice. The return of the whaling fleet may be looked for about the beginning of November."

Captain Markham chose the *Arctic*, a vessel of 489 tons with a 70 horse-power engine, as the ship on which to make his experimental voyage, because of the reputation which William Adams, its commander, had obtained for dash and enterprise. But there was an obstacle in the way which had first to be removed. Whalers have no license to carry passengers, and consequently every one on board has to sign articles as one of the crew. Such a trivial matter was not allowed to stand in the gallant captain's way, and accordingly he signed articles as second mate, engaging himself "to serve on board the good ship *Arctic* on a voyage from Dundee to Greenland or Davis' Straits, and seas adjacent, for whale and for other fishing, and back to Dundee." He moreover promised to be orderly, faithful, honest, and sober, diligent in his duties, and obedient to the lawful commands of the master. His daily allowance was to consist of so much butter, cheese, oatmeal, bread, beef, pork, flour, tea, sugar, lime-juice, and other stores, and for wages he was to receive one shilling per month, together with a bonus of one penny for every ton of oil and one farthing for every ton of whalebone brought home. It need hardly be stated that the arrangement of these things was only a bare legal form, and that Captain Markham was really free to do as he

liked, and to enjoy himself according to his own fancy and inclination. The crew of the *Arctic*, which consisted of fifty-five souls all told, were apportioned as follows: eight harpooners, including the mates and speksioneer (the officer under whose direction the whale is cut up), eight boat-steerers including the skeeman (head lineman) and boatswain, eight line-managers, and the remainder, excepting the captain, doctor, engineer, shipkeeper, cook, and steward, who always remained on board, had for their special duty the manning of the boats. There were eight boats, and each had a crew of six men—five rowers and one steerer. The boats are without rudders, being more easily and rapidly managed by a steer oar. The harpooner, whose duty it is to strike the whale, takes charge of the boat and pulls the bow-oar. "The line-manager pulls the stroke oar, and it is his province, with the boat-steerer, to see the lines coiled away clear, and to attend them when running out, after a whale has been struck."

The *Arctic* left Dundee on the 3rd of May, and arrived all safe at Davis' Straits about the 12th. The weather being very fine, though cold, preparations were at once began for the capture of whales. All hands were busy in attaching the lines to the harpoons, and in coiling them away in the boats. Before sunset six boats were ready to go away at a moment's notice. Very soon the ship came into the region of ice and

seals. Fourteen of these creatures were speedily captured, and more speedily disposed of by the expert fingers of the crew. It was now time that the two remaining boats should be got ready, and the crow's nest set up, a work which did not take very long. "The crow's nest is simply a large cask or barrel, which is triced up to the main-royal masthead. The lower end rests on an iron jack above the eyes of the topgallant rigging, secured to the mast with an iron band, and the upper part has an iron strap which goes round the royal pole. On the top is an iron framework for resting a telescope. It is altogether a very ingenious contrivance. There is a small trap-hatch in the bottom sufficiently large to admit a man, which is then shut down, and serves for the inmate to stand upon. When on the whaling-ground the crow's nest is always occupied." At noon on the 15th of the month the *Arctic* arrived at the edge of a large and compact stream of pack ice; but clear water being seen beyond, she pushed her way in, only, however, to be hopelessly jammed for some time in a mass of floating bergs, in spite of engines at full speed and canvas all set. As far as the eye could reach the ice was continuous, even the wake of the ship astern being closed up. At last by screwing and boring, and after some terrible collisions with the ice, the clear water ahead was reached, and, to the joy of the crew, three whales

were sighted. In a moment the greatest excitement prevailed on board. Four boats were lowered and set off in pursuit. No sooner had they left the ship than other whales were seen, and in a very short time every boat was in full chase. But after five hours' ceaseless pulling the boats could not get near enough to strike, and so had to return to the ship. The next day was more exciting, but not a whit more successful. The speksioneer got fast in a whale, which at once made for the ice. "We in the ship," writes Captain Markham, "having steam at our command, immediately followed, steering for the pack, which we shortly entered, and then ensued a scene which almost baffles description. It was blowing a stiff breeze, and there was rather a heavy swell on at the time. The fast boat had been brought to a stop by a heavy floe, and the other boats, which had all entered the loose pack in pursuit of the whale, were being so severely handled by the ice, that for some time great fears were entertained for their safety. On several occasions they were nearly crushed between the floes, and were only saved by the promptitude of their crews, who, hastily jumping out, would haul them up on the ice. Some of these floes were drawing over twenty feet of water, which may give an idea of the ponderous weight of these floating masses of ice. After a little time had *elapsed*, and not without a great deal of difficulty, we

succeeded in picking up our four loose boats, and then directed our attention to the whale, which had been observed to come up in a water space, but at such a distance that we were unable either to use a lance or to fire a second harpoon. Our first object was to transfer the lines from the fast boat to the ship, which was accordingly done, though not without much trouble, as the whale was still taking line, and at such a rate that the bows of the boat were drawn down to the water's edge, and the harpooneer was enveloped in smoke caused by the friction of the line round the bollard head. The whale had by this time run out ten lines (1,200 fathoms), equivalent to about a mile and a quarter. The captain was much afraid lest he should lose all these lines, as he had from the first foreseen the difficulty that must necessarily ensue in attempting to capture a whale amidst such heavy ice. However, no one despaired, and all hands manned the line, resolved to bring the whale home, carry away the line, or draw the harpoon. Every one worked well and cheerily, knowing that £1,000 was at the other end of the line. It was with no little surprise and wonder that I witnessed, for the first time, the enormous power and strength of these leviathans of the deep. Not only were we being towed by the monster through the pack, but with such rapidity that we were frequently brought into violent contact with the heavy floes.

"Things were beginning to look brighter; heavy strains had been brought on the line, and still everything held; the men were singing cheerily, and already counting up their oil-money; more than half the line had been hauled in, and we were all confidently looking forward in a short time to behold our prize. Suddenly a more than usual strain came upon the line, a quick and sudden jerk, the line ran in easily, and we knew our whale had escaped. A bitter sense of disappointment seemed instantaneously to settle upon everybody. 'She's gone!' was re-echoed through the ship; no more jokes were cracked, no longer was any singing heard, and the line was hauled in slowly and silently."

For several days after this they had no better "luck," but at last a whale was struck and captured. As soon as it was brought alongside the ship, and the crew were primed with a glass of grog, the operation of what is known as "flinching" was begun, under the direction of the captain, from the port main rigging. Seven of the harpooneers, under the guidance of the speksioneer, having strapped "spurs," or iron spikes, to their boots, to prevent them from slipping, stepped upon the fish, and, with their blubber spades and knives, separated the blubber from the carcase in long strips. These pieces were hoisted on deck by special tackle, where, having been cut up into smaller pieces about two feet square, *they* were then transported below through a small hole

in the main hatchway, to wait until opportunity should offer for performing the final operation of "making off." The whalebone having next been lifted on board, and the tail separated, the carcass was released, and disappeared with a plunge amid the cheers of the men. This is in brief the method pursued in cutting up every whale that has been captured. "After the operation of finching is concluded, the upper deck, as may be imagined, is in a very filthy state, and so slippery that, unless great care and caution are exercised whilst walking, a fall is inevitable. A little sawdust, however, sprinkled over the worst parts, makes it a safe promenade."

The next day being calm and fine, and no whales observed, the crew proceeded to the operation of "making off." In this process the blubber is cut up into small pieces, skinned, then cut into smaller pieces still, and afterwards deposited in the tanks. The scene is an animating one. Everybody is actively employed, the greatest good-humour and cheerfulness prevail, and although the work tends to make the ship in even a more filthy and greasy condition than the process of finching, yet there is nothing particularly repugnant or disgusting in the operation. While the men are busy at work, the fulmar petrels, called by the whalers "mollies," are not slow at seizing their opportunity to gorge upon the numerous pieces of

blubber floating around the ship. They fight together and scream with a terrible clamour about these tidbits, and such is their greed that they will proceed a little way to disgorge, and then return to the feast. But then we have known human fulmar petrels, and so must not say anything too hard about these poor birds.

The ship was now in the heart of the ice region. On Sunday, May 25th, the ice closed in rapidly upon the *Arctic*, and she was fifteen hours in cutting her way through. The next few days were spent in struggling against strong head-winds and heavy snow showers. So heavy, indeed, were these showers that, although the men were kept constantly employed in clearing the snow away, it not unfrequently lay a foot deep on the upper deck, while the masts, yards, rigging, and ropes were completely covered. As many as from eight hundred to three thousand icebergs, some of them of great size, were passed in a day. We can well believe the captain when he says: "It is most interesting to watch from the forecastle the ship battling, as it were, with the ice, one moment striking a floe stem on, causing the ship to come to a dead stop, at another making a cannon from one piece and striking a second on her opposite bow, which will rebound with such force as to make the ship's head swerve from four to six points; again, there are other pieces which are pressed down by the weight of the ship's bow, and which, when

released of the pressure, rise rapidly and suddenly in most unexpected directions. Great care must be taken to fend off these latter pieces by means of long poles, as they spring up in the water to such a height, and with such velocity, that they have occasionally been known to rise under one of the boats, completely smashing it."

The Arctic Circle was crossed without any of the old ceremonies being observed, and on Sunday, June 1st, the ship put in at Discov, an island on the Greenland coast. Here the officers were hospitably entertained by Mr. Smith, the Chief Inspector of North Greenland, and his wife, who also conveyed to them the welcome intelligence of the safety of a portion of the crew of the United States exploring ship *Polaris*. The visit to this island is specially noteworthy, however, for an adventure which narrowly escaped a fatal result. It was snowing hard, and as there was no prospect of proceeding to sea, Captain Markham induced the doctor to accompany him on a walk, and a clamber up one of the hills of the vicinity. Armed with a long boat-hook, staff, and a gun, they proceeded according to the directions of the Governor. They kept to the banks of the Red River, until they came to a precipitous ravine which it was impossible to cross. Following its direction to the left, and proceeding with great caution, as they could not see more than ten or twenty feet ahead, they clambered upwards, the doctor arguing for a speedy return,

and the captain urging an advance. By half-past four in the afternoon they knew by the force of the wind that they had reached the summit of a hill. The rest of the story had better be told in the captain's own words. "Deeming it imprudent, on account of the inclement state of the weather, to proceed any further, we turned to retrace our steps, but the snow was so thick that in a little time we could not see our tracks, and eventually lost ourselves. Affairs began to look serious as far as getting back that night was concerned, though we comforted ourselves by the knowledge that we had wherewithal to sustain nature until the snow ceased, the doctor having taken the precaution of putting a couple of biscuits in his pocket, and each of us being provided with a small flask containing brandy and water. Knowing that we had come with the wind at our backs, and keeping close together for better security, we shaped a course head to wind. The snow beating into our faces was positively blinding, making our eyes sorely ache. As it fell it froze upon our faces and clothes, and we were soon a complete mass of ice, though the exercise of walking, and the exertion constantly necessary to prevent ourselves from tumbling, kept us in a perfect glow of heat. On one occasion I gave myself up for lost. Everything around was perfectly white, and it was impossible to say whether one was walking on a level piece of ground

or on a steep decline. Suddenly my feet slipped, and in an instant I was sliding down the frozen surface of what I imagined to be the side of a glacier, which I was convinced would take me to the edge of the ravine and precipitate me into the gaping gulf beneath. I felt myself gradually gaining a greater velocity as I descended, when, providentially coming to a soft snow-drift, I succeeded in driving my alpenstock deep into the snow, thus effectually stopping my rapid and head-long career. Looking around, to my horror I perceived the doctor directly in my wake, coming down at a great speed; if he touched me I felt certain that we must both go, and I shuddered to think of the fate awaiting us. He was, however, like myself, enabled to dig his heels into the snowdrift, and was thus stopped. Putting the best face on the matter, we laughed heartily at our misadventure, and pushed on again, head to wind. Our mishaps were endless. Getting on to a nice firm piece, on which I was in hopes we should make good progress, I hailed my companion to follow, observing that it was a famous bit for walking on! Hardly were the words out of my mouth before I plunged over head and ears into a drift, the doctor tumbling in after me. Extricating ourselves as best we could, we continued the descent, but for upwards of an hour we were completely lost, until by great good luck we suddenly emerged on the brink of the chasm along which we had

ascended ; and then we knew our troubles were at an end, as from thence we could with ease retrace our steps, ultimately reaching the settlement at about six o'clock, and, hastening on board, we were soon enjoying the luxury of a cup of hot tea and a change of clothing."

Upervivik, another island further north, was the last place at which the crew of the *Arctic* would see or converse with civilized beings, unless they should have the good fortune to meet another whaler. June 6th brought the ship face to face with the dreaded floe-ice of Melville Bay. After a vain attempt to break through to an open stream of water between the floes, significant preparations were made on board. "Provisions were hoisted up from below and ranged along the upper deck in readiness to be placed in the boats or thrown out on the ice, should it be necessary to abandon the vessel, each man of the ship's company being ordered to have a shift of clothing packed up handy in a small bag." It was evident that the captain saw the possibility of the ship being "nipped"—that is, crushed by the ponderous floes closing down rapidly upon it. This fatality, however, did not occur, although during the next day the skill of the captain was greatly taxed to prevent the danger, the floes being in such rapid motion. To add to his difficulties, the weather became very thick, snow fell heavily, compelling an immediate halt. The *Arctic* was made fast to a large floe, and the

Erie, another whaler with whom she had fallen in a day or two before, followed her example. Further on in the afternoon the *Victor* arrived, and also anchored to a floe, and in the evening Captain Markham was initiated into the mysteries of a "mollie." In whaling parlance a "mollie" means having a night of it; that is, a number of captains congregate together on board one ship, and then an animated discussion arises regarding the success attending each and every individual engaged in the fishery. As talking is naturally a thirsty occupation, copious potations of spirits and beer are discussed, forming very important items in these orgies, which on several occasions have terminated in anything but a friendly manner.

Sunday, June 8th, came in with a bright sun, and the captain, seeing what he considered a good lead, though separated from the ship by a broad stream of ice, determined to bore his way through. Steam was got up, and the *Arctic* dashed at the barrier of ice full speed. Upon the floe on each bow of the ship were stationed men armed with long boathooks and hand-spikes, who removed the fragments of ice as they were broken off by the ship. Sometimes the floes had long projecting tongues under water, which caught the fore part of the ship and turned her head round, and consequently away from the passage aimed at. But that was not all the difficulty. Other pieces of ice broken up by

the charge of the *Arctic* passed under her bottom, and emerging up the screw aperture brought the engine to a dead stop by preventing the propeller from performing its evolutions. "Those of the ships' company remaining on board were all this time employed in running from side to side on the upper deck for the purpose of rolling the ship, and thus crushing the ice and making a free passage." At last success crowned the efforts of the crew, and the ship steamed into fine open water, followed immediately by the other two vessels. A few more struggles with the loose pack and the passage across Melville Bay was made in safety, and with a rapidity almost unprecedented. The northern limit of the whaling ground off the entrance to Lancaster Sound having been reached, the fires were burned down and the ship was put under canvas.

On Thursday, June 12th, the *Arctic* was fairly caught in an ice-trap. Seeing a large open water to the southward the captain made for it, and found as soon as he was in it that the floes were fast closing, and that it was impossible to extricate himself. It was not until Sunday that an escape was effected, after the exercise of great patience and perseverance. No sooner was the ship free than a whale was espied from the mast-head, and, Sunday as it was—for whalers are by no means observers of the day of rest—the boats were despatched in pursuit. No fewer than four whales fell that day to

the harpoons. Some days later some of the sailors had the good fortune to capture a narwhal, measuring eighteen feet in length exclusive of the horn, which was seven feet long ; a valuable prize truly ! For some time the efforts of the crew were only rewarded by an occasional capture, but enough work had been done to put the ship into an almost indescribable condition. " From the wheel aft to the taffrail," writes Markham in his journal, " piled up in large sacks as high as the gunwale, is the whalebone taken from the recently caught fish ; and from the wheel to the mainmast, on each side of the quarter-deck, are between twenty and thirty tons of coal, cleared out of the tanks in order to afford room for the blubber. The only *clear*, not *clean*, part of the ship is along each gangway, which must necessarily be kept so for the purpose of flinching and making off. The captain says, ' If we get another fish or two we shall be in a fearsome mess.' It seems impossible to be worse than we are. If we get any more fish we shall have to throw some of our coal overboard, as there is certainly no more room for any on our quarter-deck, the only available part of the ship ; even the forehold has been cleared, and coal has been indiscriminately shovelled into the space vacated by the casks of provisions, which have been lashed to the bulwarks round the fore part of the upper deck."

Proceeding up Lancaster Sound the Arctic came close

to Leopold Island, where a whale was captured, which, in spite of several lances, seven harpoons, and three rockets buried in its flesh, towed the ship and seven boats at the rate of three miles an hour. Some more fish were taken, but the wind and the sea rising the captain put into Port Leopold to wait for fine weather and to fill up with water. Here Captain Markham was greatly interested with the relics of some former important expeditions. In this very place Sir James Ross wintered in 1848-9. By his orders a house was erected and provisions left in it as a depôt for the relief of the ill-fated crews of the *Erebus* and *Terror*. He also left the steam launch of the *Investigator*, which, lengthened seven feet, was made capable of conveying the whole of Sir John Franklin's party to the whale-ships. "In this desolate spot three of the greatest of our modern Arctic navigators thus found shelter for nearly twelve months. Besides Sir James himself, the discoverer of the North Magnetic Pole, there were M'Clure, the future discoverer of a North-West Passage, and McClintock, the discoverer of the fate of Franklin. On September 21st, 1851, Mr. Kennedy, of the *Prince Albert*, landed and passed the night in the steam launch, marching thence, with a sledge, to his winter quarters further south in Batty Bay. He was there again on July 27th, 1852, while on his long sledge journey with Lieut. Bellot round North Somerset, when he deposited a record

The place was afterwards again visited by McClintock on August 19, 1858, when in command of the *Fox*—the final (English) expedition sent out in search of Sir John Franklin. He found that the ice had been pressed in upon the low shingle point, forcing the launch up before it, and bearing her broadside on to the beach, with both bows stove in, and in want of considerable repairs; but the means were all at hand for executing them. He left a whale-boat, and added a record of his proceedings to the many that had accumulated here during the ten years between 1848 and 1858. In that interval several exploring ships employed in the search for Franklin had touched at Port Leopold as they passed up or down Barrow Strait or Prince Regent Inlet."

Captain Markham had the good fortune to find a tin cylinder, red with rust, lying on the beach, in which were some "records" of the *Fox*, left by McClintock. These he resolved to take home with him, in case they should be destroyed by whalers who might land there. The skeleton of the house was still standing, and might have been made habitable by means of a few old sails. The launch was a perfect wreck, but the whale-boat still appeared sound. Some two hundred and thirty casks of different sizes and descriptions were lying about in all directions, possibly the work of inquisitive bears. "Much of the biscuit was in a decayed state, though

some was perfectly good. The whole of the tinned meats were in good order, as also were the sugar, chocolate, and tobacco ; tea and raisins quite perished ; peas in fair and flour in a very good state. The blankets were almost as good as new. The place was not without its graves, for five of the men belonging to the *Enterprise* and *Investigator* had been buried there. In a bottle at the foot of one of them was found the following touching and original inscription :

“ Near this spot lay the remains of Thomas Coombs (late belonging to the carpenter’s crew of her Majesty’s ship *Investigator*), who died on board that ship on the 27th day of October, 1848, after a lingering illness of three months, which he bore with Christian fortitude. And I sincerely hope, should any Christian fall in with *this*, that he will leave his body to rest in peace and undisturbed, and oblige his late chum and messmate, CHARLES HARRIS, A.B.”

Steaming out of Port Leopold the *Arctic* had the good fortune to fall in with so many whales that on the 6th of July the gains were reckoned up at twelve whales, or about one hundred and seventy tons of oil. A hundred tons more and the ship would be full. This was not so good news to Markham as to the sailors, for the more speedily the tanks filled up the less was the chance of proceeding to the north, and the gallant *captain’s* head was filled for the nonce with the North

Pole. This being so it may be imagined with what interest he learned that the whaler *Ravenscraig* was close at hand, and had on board a portion of the surviving crew of the ill-fated exploring ship *Polaris*. The *Arctic* took on board seven of them, among whom was Dr. Bessels, the only man besides the leader, Hall, who had any enthusiasm for the objects of the voyage. In him Captain Markham found a friend as well as a most intelligent companion, and learned from his lips much that increased his desire to reach the North Pole.

No more whales appearing, the restless captain of the *Arctic* turned the head of his ship round and made again for Cape Bryan Martin. This move allowed Markham to make some important corrections in the charts of the neighbourhood, but foul weather coming on the *Arctic* returned to Prince Regent's Inlet. Immediate success was the result. The success, however, was not without its peril, and as the story well illustrates the risk of the whaler, we give it in Captain Markham's own words.

"Dinner was scarcely over before a fish was seen close to the ship, and all hands were called. He rose alongside. Tom Webster pulled up—all was breathless excitement, every one watching the result. He had a splendid chance, right over the fish, which we already regarded as our own. He fired, but, sad to

relate, missed. The captain hailed from the nest to put in his hand harpoon; he stuck it in, but, fortunately as it turned out, had not time to bury it deep in the whale's blubber. Down went the fish with fearful rapidity, the lines fouled, and in another moment the boat would have been taken down. 'Jump overboard for your lives!' shouted the captain from the crow's nest. At that instant the harpoon drew, and they were safe; but our fish was lost. Poor Tom! we were all more sorry for his misfortune in missing than for the actual loss of the whale. But we had no time to lament our ill-luck, for more fish were seen, and in less than half an hour we had the pleasure of hearing 'a fall' cried, and of knowing that Jemmy Grey was fast. Seeing that it was a heavy fish, and likely to give trouble, Chester and I volunteered to go away in the dingy with the rocket-gun to kill it, an offer which was gladly accepted; Chester took the gun and I the steer-oar, the doctor (Graham) and an old fireman, commonly called old Harry, forming our crew. We pulled close alongside the monster, which had by this time got three harpoons in its body. This seemed to make it wild; Chester fired. I swept the boat round, but the dingy—rather an unmanageable little boat, in consequence of a very deep false keel, which had recently been put on, and also being a boat very ill-adapted for the service on which we were employed—

failed to get clear of the brute's tail, which it had thrown up out of the water on receiving the contents of our gun, and which, descending with terrific violence, just caught the gunwale of our boat, knocking me over the stern. Before coming to the surface I imagined the dingy had been smashed to pieces, which would have been rather a bad case for us, as the other boats were some way off, and also fast to the fish; and no loose boat being near us, and with the temperature of the water only a few degrees above freezing point, I don't think that I, for one, could have kept up long, accoutred as I was in a heavy monkey jacket and sea boots. However, on rising to the surface I had the satisfaction of seeing the dingy a couple of boats lengths off, and the doctor (who had taken to the water, imagining that the tail was coming right down upon us) and myself were soon hauled in, none the worse for the ducking. If the boat had been one foot nearer the fish she would most assuredly have been dashed to pieces, and we should have all been killed before having time to jump overboard. However, we ended in having our revenge on the monster, though it was an hour and a half before we succeeded in despatching it. Having no boat to assist us, the whole duty of killing the whale fell to us. Chester (an old whaler) used the lance in a masterly manner. I was not sorry to return on board and get some dry clothing."

On Sunday, August 3rd, the ship hove to off Fury Beach, "classic ground in the annals of Arctic adventure," and all went on shore. The place derived its name from the *Fury*, commanded by Captain Hoppner, which had to be abandoned here in August, 1825, after her stores had been safely landed by the help of the crew of the *Hecla*, under Sir Edward Parry. Subsequently the stores were of no little service to the crew of the *Victory*, commanded by Sir John Ross in 1829; to Mr. Kennedy, of the private searching vessel, *Prince Albert*, in 1852, and to Mr. Allen Young in 1859. Now, in 1878, Captain Markham found casks, spars, rigging, and a perfect assortment of ships' stores strewn about in all directions. There were many hundred tins of beef and vegetables in an admirable state of preservation after a lapse of fifty years. The flour was perished, but the sugar and tobacco appeared to be good. The metal powder-cases had all been broken open, and some of the powder was lying about, while the marks of bears' teeth and claws were plainly visible on some of the casks. The captain carried away, as souvenirs of the place, an old rusty knife, a good harpoon, a broken pair of binoculars left by Lieutenant Robinson in 1849, and a pair of large deer antlers, possibly shed by the animal itself.

Although we have made no mention of the fact, not a few bears had by this time fallen to the rifle of Captain

Markham, but the feat was accomplished without any noteworthy difficulty. On the 4th of August the shooting of Bruin was not so easily accomplished. He was espied apparently asleep on the floe, but the boat could not approach within five hundred yards owing to the ice being loosely packed. The crew accordingly jumped out on the ice and endeavoured to make their way towards him. "This was by no means easy," writes the captain, "as the floes were in some places so far apart as to render it impossible to jump across; we were therefore compelled in these places to push the floes over with boathooks, which we had taken the precaution to bring with us. Great care had also to be taken to avoid falling through, as the ice was very thin and treacherous, added to which, it was drifting rapidly to the southward; so, had either of us fallen in, the ice would have passed over before we could have had a chance of getting out. After some little time we got within a hundred and fifty yards of 'Master Bruin,' who had been lying quiet all the time. Having arrived at that distance, in our anxiety to get near we jumped on a piece of rotten ice, which instantly gave way with an unpleasant crumbling noise. Fortunately, we were able to scramble out, wet only to the waist. The noise, however, disturbed Bruin, who, raising his head, surveyed us intently. Bannerman fired but missed, which caused the bear to get up and meditate a retreat, when

I fired, striking him just behind the head, and rolling him completely over. He gathered himself up again pretty smartly, when I again fired, the ball passing through his neck. By this time, having run on in a frantic manner, splashing through water and ice alike, I had come up close to our friend, who, seeing me, rushed open-mouthed towards me. When he got within five yards' distance I fired, the bullet striking between the two eyes, and at once terminating his sufferings. He is the largest we have yet shot—fully ten feet in length. After flinching him we had the unpleasant task of dragging the skin down to the boat. If our journey towards the bear was bad, our return was far worse. On arriving at the boat we found, to our chagrin, that she was completely beset, the ice having closed in all round. To wait longer would only make matters worse, so we had to look our difficulties resolutely in the face and commence action. For upwards of an hour were we breaking through thin ice, or hauling the boat bodily up on a large floe, dragging her across, and launching her on the other side. It had one good effect, which was that of keeping us warm, so as to counteract the effects of our wetting. Matters were beginning to look rather serious, steady rain and thick weather having set in, when, fortunately, they saw from the ship the unpleasant predicament in which we were placed, and the captain, ordering steam to be got

up, bored a passage to us through ice, and so relieved us from our troubles."

When off Cape Garry, Captain Markham, accompanied by Dr. Bessels and some others, landed on an exploring expedition. They came upon the remains of an Esquimaux village, consisting of thirty-four huts, seven of which had originally been built of stone, and the remainder of whalebones. Somewhat further to the south they stumbled upon four deer, one of which, a buck, fell to the captain's rifle. Dr. Bessels was his only companion at the time, and they found it impossible to drag a stag weighing two hundred pounds over very rough ground, a distance of more than six miles. Dragging it to the summit of a hill, distant about a quarter of a mile, they cleaned it with their penknives, tied a pocket-handkerchief to one of its antlers to mark the spot, and returned to the boat. After a little rest and refreshment they sailed further up the bay to a place which they imagined to be nearer their game, and started to bring it in. They had not walked half a mile before a fine buck was observed jumping and skipping about. The second bullet from the captain's rifle brought him down, when he was slung joyfully on an oar and carried to the boat—not, however, without aching shoulders. Starting a second time in search of the first deer, they found it five and a half miles from the boat. As may be imagined, they were

thoroughly fatigued, and the only practicable means of carrying off their prey was to cut it up and divide into loads for three. Captain Markham had one fore-quarter and the head, besides his rifle and ammunition, and he says so tired was he that he does not believe he could have walked a mile further. However, the novelty and the success of the expedition formed a sufficient compensation for all the toil.

When they got on board they were greeted with the news that a fine whale had been taken in their absence, which made the *Arctic* a full ship, with nearly ten tons over—possibly the largest cargo of oil that had ever gone home from Baffin's Bay. The order of the day was therefore, Homewards, ho! To the question of the captain, "What do you say, boys, home or another fish?" the harpooneers answered with a ringing cheer, "Home!" All on board took up the cheer, and steam being raised, the order was given to go ahead. While off Port Leopold, Captain Markham succeeded in killing a monster bear, measuring over ten feet, and weighing about seven hundred pounds. Shortly after another was shot, with whom was a little cub, which they took on board with the intention of bringing it alive to Dundee. The return journey was not effected without trials and even dangers. Baffin's Bay was certainly clearer than ever the captain had seen it; but before it was fairly reached the crew spent the most trying

day of all. The wind blew with such violence that between decks everything was in a terrible state, "tanks, whalebone, and seamen's chests were lying about in fearful confusion, and it was with no little difficulty that the things could be properly secured." Then, when the *Arctic* had got as far south as Home Bay, such a barrier of ice spread out before her that she was compelled to return to the north, and seek a passage round the north end of the middle ice. But six days passed before they were really assured that they were proceeding in a southeasterly direction, and it was not until the seventh day that, to the joy of all, the ship emerged into the east water, and a course was shaped for Cape Farewell. As home was now comparatively close at hand, the crew were busied in washing and drying the whale-lines, in lubricating and stowing away the harpoon-guns, and in painting the ship. September the 19th saw all on board, baby Bruin included, safe in the harbour of "Bonnie Dundee."





*IN THE GUISE OF A DERVISH:
ARMINIUS VÁMBÉRY'S TRAVELS IN
CENTRAL ASIA.*

WE are now to consider one of the most singular, daring, and successful episodes in the whole history of exploration. A young Hungarian, Arminius Vámbéry by name, in pursuing the science of language, for which he had a special genius, was led to the conviction that there was a positive affinity between the Hungarian and the Turco-Tartaric dialects. In order to bring his theory to the touchstone of facts, he resolved to visit the East and devote himself to the study of the living languages. His plans were well laid and boldly carried out. He went first to Constantinople, where he spent several years in familiarizing himself with Turkish manners, and in studying at Islamite schools and libraries. He was soon transformed into a Turk and an Efendi to boot, in which character he

deemed it best to visit Asia in the prosecution of his studies.

At Teheran, in Persia, where he was hospitably entertained at the Turkish Embassy, Vámbéry was brought into intimate contact with hadjis or dervishes from the most remote parts of Turkestan. The conversations of these wild Tartars were of the greatest importance to him in his philological researches, and as a consequence he was not slow to court their society. He became so popular with them, that a rumour was circulated to the effect that Reshid Efendi—the name by which he was known—treated the dervishes as his brethren, and that he was probably himself a dervish in disguise. There was therefore nothing unnatural in the thought which at last presented itself to him, “What if I journeyed with these pilgrims into Central Asia? As natives, they might prove my best mentors; besides, they already know me as the Dervish Reshid Efendi, and have seen me playing that part at the Turkish Embassy, and are themselves on the best understanding with Bokhara, the only city in Central Asia that I really feared, from having learnt the unhappy lot of the travellers who had preceded me thither.” His resolution was soon taken: he would go with them. We cannot but admire the young scholar of thirty-one, as we imagine him putting on the wretched rags of the dervish, and resolving, in spite of the lameness of a foot which made walking

painful, to face the perils of the desert, and to run the gauntlet of fanatical and suspicious Moslems, in order to prosecute his beloved study. Yet to carry out his object he was compelled to resort to a measure of deception which he himself says he would, under other circumstances, have scrupled to adopt, and which we find hard to reconcile with the dictates of an honest conscience. However, it is not our business here to enter into questions of morality, and so we must let this matter alone. Knowing that it would have defeated his object to tell his fanatical companions that he was joining them in order to satisfy a thirst for knowledge, he said that he had long desired to visit Turkestan "to see the only source of Islámite virtue that still remained undefiled," and "to behold the saints of Khiva, Bokhara, and Samarcand." This, he assured them, was the one great object which had brought him from Roum (Turkey), and he thanked God that, after a year's waiting in Persia, he had at last granted him fellow-travellers, such as they were, with whom he might proceed on his way and accomplish his wish. The hadjis were delighted at the proposal, but nevertheless set before him the terrible rigour of the journey, and the fact that he would have to return alone. Vámbéry making light of these things they accepted him as a companion, and embraced and kissed him, a ceremony to which he had *considerable* aversion, because the clothes and bodies

of the dervishes were impregnated with all kinds of odours.

Preparations for the journey were at once begun. Vámbéry had his head shaved, exchanged his Turkish-European costume for one of Bokhara, and, according to Hadji Bilal's advice, dispensed as far as possible with bed-clothes, linen, and all such articles of luxury. His equipment, therefore, was of a very slender and modest nature. On the morning of March 28th, 1863, our adventurer proceeded to the caravanserai whence the start was to be made. "Those of my friends," says Vámbéry, "whose means permitted them to hire a mule or an ass as far as the Persian frontiers, were ready booted and spurred for their journey; those who had to toil forwards on foot had on already their *jaruk* (a covering for the feet appropriate for infantry), and seemed, with their date-wood staves in their hands, to await with great impatience the signal for departure. To my great amazement I saw that the wretched clothing which they wore at Teheran was really their city, that is, their best holiday, costume. This they did not use on ordinary occasions. Every one had now substituted his real travelling dress, consisting of a thousand rags fastened round the loins by a cord. Yesterday I regarded myself in my clothing as a beggar; to-day, in the midst of them, I was a king in his royal robes. At last Hadji Bilal raised his hand for the parting

benediction, and hardly had every one seized his beard to say 'Amen,' when the pedestrians rushed out of the gate, hastening with rapid strides to get the start of us who were mounted." Reciting aloud passages from the Koran, or chanting hymns, Vámbéry's companions, twenty-three in number, pressed on; but he, deeply moved at bidding adieu to the last outpost of European civilization, lingered sadly behind. His friends did their utmost to cheer him, and were soon rewarded by hearing him screaming with the others in their hymns, "Allah, ya Allah!" "Hadji Reshid," said the elder pilgrims, "is a genuine dervish; one can make anything out of him." The beautiful scenery of Mazendran made "the last spark of trouble" disappear from his thoughts. Karatepe, on the shores of the Caspian, was safely reached, where Vámbéry and some of his companions received great kindness at the hands of Nur-Ullah, an Afghan of distinction. Some of the people, however, had their doubts about the pale-faced dervish, especially a certain man, a tiryaki or opium-eater, who for purposes of his own wished to be taken as the friend and companion of Vámbéry. Acting on the advice of Nur-Ullah, who told his guest that the man was a worthless fellow, our traveller refused to have anything to do with him.

Having laid in a stock of flour, and secured passage *in a small vessel* without any deck, the pilgrims crossed

the Caspian and landed at Gömüshtepe. The reception they met with from the people was flattering and hospitable in the extreme. Young and old, men and women, rushed to be embraced by the hadjis, "on whom the holy dust of Mecca and Medina still rested," while they quarrelled among themselves about the honour of entertaining one or more of the strangers. Vámbéry and his friend Hadji Bilal had the good fortune to be the guests of Khandjan, the head man of the place. He introduced them to the different members of his family, and then told them that as it was the custom of the Turkomans to regard a guest as the dearest member of the family, they might move about without obstacle both amongst his own clan and the whole tribe of the Yomuts; and should any one touch a hair of their heads the clan would exact satisfaction. As a fortnight would at least have to elapse before a caravan would start for Khiva, Vámbéry devoted the time to a study of the habits and language of the people. In this he was greatly helped by assuming the full character of the hadji, which brought him into close contact with such of the inhabitants who were anxious to receive from him *fatiha* (blessings) and *nefes* (holy breath). "I was now able," he says, "to penetrate the secrets of their social relations, to learn the numerous ramifications and families into which the tribe is divided; and, if possible, form an idea concern-

ing the bond that holds together elements apparently so discordant and confused. The task was somewhat more difficult than I had supposed. I had only to touch upon a question relating to ordinary life, or to show a curiosity for some matter or other, to make men wonderingly ask what a dervish, whose proper business was only God and religion, had to do with the affairs of this transitory world. My inquiries, therefore, on these heads cost me great trouble, for direct questions I never dared to put. Most fortunately, however, the Turkomans, who pass all their lives, with the exception of that part devoted to marauding expeditions, in the greatest indolence, are prone to indulge for hours and hours in conversations on political matters, to which I only listened in silence; and sitting there thus dreamily, with my beads in my hands, it has been permitted me to study the history of their raids (*alaman*), of their relations with Vilayet (Persia), with the Khan of Khiva, and with other nomad nations."

After a stay at Gömüshtepe of three weeks, an opportunity presented itself of joining a caravan *en route* for Khiva. The Khan, recommended by his physicians to drink the milk of the buffalo for his health, had despatched his kervanbashi, or leader of caravans, to Gömüshtepe to purchase a pair of these animals, for they were not to be met with in his own country. The *return* journey was to be made when the kervanbashi

had returned from a visit to Astrabad ; and as he was a man of great experience in desert travelling, the dervishes were only too glad to follow under his leadership. Arrangements were accordingly made at once with one Ilias Beg, a cattle-dealer, for their transport by camels to Khiva. Vámbéry might have had a camel all to himself, but his friends advised him to share it with another in order not to excite the covetousness of the nomads, who would be sure to esteem him a man of wealth if he rode alone. But with his lame foot he felt it would be impossible to ride day and night forty stations, squeezed into the same wooden saddle with another man, and he therefore stipulated that in place of the saddle his camel should be furnished with a pair of wooden baskets, and that he should have for "equipoise" his bosom friend, Hadji Bilal.

On the other side of the river Etrek the kervan-bashi joined them, and Vámbéry sought an interview at once with the great man. What was his surprise and alarm to find that he was received with striking coldness, while those who had accompanied him on the visit were greeted with great distinction ! The reason was soon made apparent. Emir Mehemmed, the opium-eater against whom Vámbéry had been warned, was a native of Kandahar, and had been brought into contact with the English when they occupied the city. He had therefore recognized Vámbéry as a European, and re-

garding him as a secret emissary travelling with hidden treasures under his mendicant disguise, had attached himself to the caravan in the hope of plundering him. He had made several attempts to separate our traveller from his companions, but failing, he had denounced him to the kervanbashi as a "Frengi" in disguise. As a natural consequence the leader of the caravan regarded him with some degree of suspicion. Vámbéry, however, had secured the entire confidence of his hadji companions, and as they despised the man on account of his impiety, the enmity of the opium-eater was to be regarded rather as a piece of good fortune than anything else.

"Almost two hours after this interview with the kervanbashi," says Vámbéry, "he assumed the command over the whole caravan, and pointed out to us that every one ought to fill his water-skin with water, as we should not come to another well for three days. I therefore took my goat-skin and went with the rest to the stream. Never having hitherto suffered much from the torment of thirst, I was filling it carelessly, when my colleagues repaired my error with the remark that in the desert every drop of water had life in it, and that this fount of existence should be kept by every one as 'the apple of his eye.' The preparations completed, the camels were packed; the kervanbashi had them counted, and we found that we possessed eighty camels,

that we were forty travellers in all, amongst whom twenty-six were hadjis without weapons, and the rest tolerably armed Turkomans of the tribe Yomut, with one Ozbeg and one Afghan. Consequently we formed one of those small caravans that set out on their way in right Oriental fashion, leaving everything to fate." The camels, which were joined to one another in a long row, were led by a man on foot. The course was northwards, guided by the sun during the day and the pole-star at night over a desert which could not boast the slightest trace of a path. Three halts were generally made during the day: the first before sunrise, when the bread was made for the whole day; the second at noon, because of the scorching heat; the third at sunset, to devour the scanty supper consisting of bread and water, every drop of which had to be counted. The Turkomans had with them supplies of sheep fat which they ate with their bread, and offered to Vámbéry; but he declined it, "from the conviction that nothing but the greatest moderation could diminish the torments of thirst, and harden one to endure fatigue."

On the evening of May 19th the entire company was brought into a position of great peril near the foot of the Little Balkan. The kervanbashi had gone to sleep, and the guide, mistaking his way, led the caravan close to the dangerous salt morasses which abound in this neighbourhood. These places are very treacherous,

owing to the thick white crust which covers them equally with the firm ground in their vicinity. The footing of the poor camels gave way under them, and they refused to advance. Jumping down, Vámbéry felt that though standing upon earth he seemed to be in a moving boat, while the strong smell of soda was almost insupportable. The kervanbashi, now awakened, shouted to all to stop where they were, and wait patiently till daybreak. Three wretched hours passed, but when the light came they rejoiced that they had been saved from a terrible death. A little further and they must have sunk beyond any hope of salvation.

Beyond the lovely valleys of the Little Balkan the true desert began. The kervanbashi therefore gave a few words of advice to the travellers. They were to avoid speaking loudly or uttering any cry by day or night; their bread should be baked before sunset, because a fire by night might betray their position to an enemy; they should pray constantly for security, and in the hour of danger they were not to behave like women. Some swords, a lance, and two guns were divided amongst the company, Vámbéry being one to receive fire-arms as having most heart. He now began to learn something of the great and awful majesty of the boundless desert—perhaps the greatest on the face of the globe. One evening, very shortly after the true desert had been entered upon, our travellers had a strange

experience. The people were all searching for rain water, and Vámbéry followed the kervanbashi. "We had advanced perhaps forty steps," he says, "when the latter observed some traces in the sand, and in great astonishment exclaimed, 'Here there must be men.'"

We got our muskets ready, and, guided by the track, that became clearer and clearer, we at last reached the mouth of a cave. As from the prints in the sand we could infer that there was but a single man, we soon penetrated into the place, and I saw with indescribable horror a man, half a savage, with long hair and beard, clad in the skin of a gazelle, who, no less astonished, sprang up and with levelled lance rushed upon us. Whilst I stood contemplating the whole scene with the utmost impatience, the features of my guide showed the most imperturbable composure. When he distinguished the half-savage man he dropped the end of his weapon, and murmuring in a low voice 'Amanbol' (Peace be unto thee!), he quitted the horrible place. 'Kauli dir, he is one who has blood upon his head,' exclaimed the kervanbashi, without my having ventured to question him. It was not till later that I learnt that this unhappy man, fleeing from a righteous vendetta, had been for years and years, summer and winter, wandering round the desert; man's face he must not, he dares not, behold. Troubled at the sight of this poor sinner, I sighed to think that in the search

after sweet water we had discovered only traces of blood."

No water rewarded the search of any one of the company, and our traveller tells us that he shuddered to think that that evening he would swallow the last dregs of the "sweet slime"—for by this time what remained in his goat-skin was of the consistency of mud. His companions were all suffering from violent diarrhœa. Very soon his appetite entirely left him, and he sank down quite exhausted. A joyful surprise, however, was in store for him and his friends. The kervanbashi, according to a custom he had adopted for years, had concealed a considerable quantity of water, and as it was reckoned a great act of piety to give a drop of water to the thirsty man in the wilderness, he now went round dealing out two glasses of the precious liquid to all the caravan. Vámbéry felt so refreshed that he imagined he could hold out for another three days; but he soon found that he had reckoned without his host. The very next day, being excessively hot, and the sand warm even to the depth of a foot, he fell again a prey to the most fearful torments of thirst. To add to the sufferings of the hour they were now near the tomb of a renowned saint, and it was their pious duty to dismount, and walking up to it bellow forth hymns and passages from the Koran over it. The effort was *too much* for Vámbéry. "Quite out of health," he

writes, "I fell down before the tomb, which was thirty feet long, and ornamented with rams' horns, the signs of supremacy in Central Asia. The kervanbashi recounted to us that the saint who therein reposed was a giant as tall as his grave was long; that he had for countless years past defended the wells around from the attacks of evil spirits that sought to fill them up with stones. In the vicinity several small graves are visible, the last resting-places of poor travellers who in different parts of the desert have perished by the hands of robbers, or from the fury of the elements. The news of wells under the protection of the saint overjoyed me. I hoped to find water that I could drink. I hastened so much that I really was the first to reach the place indicated. I soon perceived the well, which was like a brown puddle. I filled my hands; it was as if I had laid hold of ice. I raised the moisture to my lips. Oh, what a martyrdom! Not a drop could I swallow—so bitter, so salt, so stinking was the ice-cold draught. My despair knew no bounds."

Opportunely, however, the sound of thunder was heard; a little later a few drops of rain fell, and the travellers knew that they were certain to come across water wherever there was a subsoil of clay. Pressing on, the kervanbashi soon discovered a little lake of rain-water ahead. "Water! water!" shouted all for joy as soon as their eyes fell upon it, the very sight of the

precious liquid seeming to satisfy the craving of thirst. In half-an-hour after the lake was reached, everybody was seated at his breakfast in a state of boundless delight. The next day they arrived at a spot where spring was reigning in all its glory, and "encamped in the midst of countless little lakes, surrounded, as it were, by garlands of meadows." From this spot to Khiva the caravan never lacked for water, and thus was mitigated the terrible rigours of a desert journey.

Crossing the plateau Kafilankir, which rises like a fertile island in the midst of a sea of sand, they came to a salt lake called Shor Göl, where they resolved to call a longer halt than usual in order to complete the religious ablutions prescribed to Mahommedans. Unlike the others, Vámbéry had no clean shirt to put on, but he refused to have the loan of one kindly offered to him, believing that the greater his apparent poverty the less was the risk he should run. Such was the effect of the thick crust of dirt and sand upon his face, that when he saw his own reflection in a glass he could not refrain from laughing at himself. He had hitherto purposely abstained from washing himself, from a conviction that a coating of dirt would protect him from the burning sun. "But the expedient," he says, "had not altogether produced the desired effect, and many marks I shall retain all my life long to remind me of *my sufferings*. Not I alone, but all my comrades were

disfigured by the Teyemmün, for believers are required to wash themselves with dust and sand, and so render themselves dirtier. After I had completed my toilet, I observed that my friends in comparison with me looked really like gentlemen. They compassionated me, and insisted upon lending me some articles of attire. Thanking them, I declined with the remark that I should wait until the Khan of Khiva himself should dress me."

A few days more and the travellers were safe within the walls of Khiva. Vámbéry's delight in this beautiful city situated on a fringe of the desert was great, and might have been greater had he been assured his presence would have excited no suspicion in the breast of the Khan. The opium-eater had hardly entered the gate of the city before he began traducing the man he had failed to rob, but he was soon put to silence and confusion by Vámbéry's friends. Our traveller had also taken the precaution of winning over to his side the man who of all others in Khiva might have stood in his way. This was Shükruallah Bey, a gentleman who had spent ten years at the court of the Sultan of Turkey. Vámbéry had seen him in Constantinople, and he therefore determined to compel the ex-ambassador to admit that they had known each other there. The old man was greatly delighted to see an Efendi from Stamboul, and showed him every possible

kindness. It was doubtless through him that the next day Vámbéry was summoned to an audience with the Khan. Shükrullah accompanied him to the palace, and introduced him as one that, though a dervish, was acquainted with all the pashas of distinction in Constantinople. The Khan was seated on a sort of dais, holding a short golden sceptre in his right hand, while his left arm was supported upon a round silk velvet pillow.

“According to the ceremonial prescribed,” says Vámbéry, “I raised my hands, being imitated in the act by the Khan and the others present, recited a short Sura from the Koran; then two *Alla humu Sella*, and a usual prayer beginning with the words ‘*Alla humu Rabbena*,’ and concluding with a loud Amen and stroking of the beard. Whilst the Khan was still stroking his beard, each of the rest exclaimed, ‘*Kabul bolgay!*’ (May thy prayer be heard). I approached the sovereign, who extended his hands to me, and after we had duly executed our *Musafeha*,* I retired a few paces, and the ceremonial was at an end. The Khan now began to question me respecting the object of my journey, and the impression made upon me by the desert, the Turkomans, and Khiva. I replied that I had suffered much, but that my sufferings were now

* *Musafeha* is the greeting prescribed by the Koran, accompanied by the reciprocal extension of the open hands.

richly rewarded by the sight of the Hazrets Djemal (beauty of his majesty). 'I thank Allah,' I said, 'that I have been allowed to partake this high happiness, and discern in this special favour of Kismet (fate), a good prognostic for my journey to come.' Although I laboured to make use of the Ozbeg dialect instead of that of Stamboul, which was not understood here, the king was, nevertheless, obliged to have much translated to him. He asked me how long I proposed to stay, and if I was provided with the necessary journey expenses. I replied that I wished first to visit the Sunnite Saints who repose in the soil of the Khanat, and that I should then prepare for my journey farther on. With respect to my means, I said, 'We dervishes do not trouble ourselves about such trifles. The holy Nefes (breath) which my Pir (chief of my order) had imparted to me for my journey can support me four or five days without any nourishment,' and that I had no other wish than that God would permit his majesty to live a hundred and twenty years. My words seemed to have given great satisfaction, for his royal highness was pleased to order that I should be presented with twenty ducats and a stout ass. I declined the ducats, with the remark that for a dervish it was a sin to keep money; thanked him, however, warmly for the second part of his most gracious favour, but begged permission to draw his attention to the holy commandment which

prescribed a *white ass* for pilgrimages, and entreated him therefore to vouchsafe me such a one. I was on the point of withdrawing when the Khan desired that, at least during my short stay in the capital, I should be his guest, and consent to take for my daily board two *lengbe* (about one franc and fifty centimes) from his Haynadar. I thanked him heartily, concluded by giving my blessing, and withdrew."

After this Vámbéry became so popular that everybody wanted to have him as guest; but he had to pay dearly for his popularity. He was compelled to accept from six to eight invitations a day, and to commence the feasting with a huge dish of rice swimming in the fat of sheep-tail, between three and four o'clock in the morning! He had also to take something in every house, and so great was the surfeit that he longed for the dry unleavened bread of the desert. Moreover, although the heat was terribly oppressive, he had to keep in his windowless cell, because the very moment he went out to the inviting shade he was surrounded by a crowd, who plagued him to death with inquiries of the most stupid character. On the other hand, his business as a *hadji* so thrived that he collected no less than fifteen ducats. He had only to appear in public to be absolutely pelted with many articles of attire and other presents by the passers-by.

Coming from a second visit to the Khan, Vámbéry

was witness to the terrible cruelty practised upon their captives of war by the Khivites. The able-bodied were chained together by their iron collars, and were to be sold as slaves, but the aged had, if possible, a more terrible fate. Vámbéry saw some led to the gallows or the block, and others, at a sign from the executioner, laid themselves down upon their backs on the earth. They were then bound hand and foot, and the executioner, kneeling upon the breast of each victim, gouged out his aged eyes; "and after every operation he wiped his knife, dripping with blood, upon the white beard of the hoary unfortunate." From this scene he was led to the treasurer, in order to receive the sum promised him for his daily board, and there was introduced to another strange and barbarous custom of Khiva. The treasurer was busy sorting robes of honour, which Vámbéry heard styled, four-headed, twelve-headed, twenty-headed, and forty-headed coats. Asking the reason of this strange appellation—for he could see no painted or embroidered heads on the garments—he was told that they were rewards for cutting off the heads of enemies, and varied in value according to the number of heads brought in. "Some one," writes Vámbéry, "proceeded to tell me 'that if this was not a usage in Roum (Turkey), I ought to go next morning to the principal square, where I should be a witness of this *distribution*.' Accordingly the next morning I

did really see about a hundred horsemen arrive from the camp covered with dust. Each of them brought at least one prisoner with him, and amongst the number children and women, also bound either to the tail of the horse, or to the pommel of the saddle ; besides all which he had buckled behind him a large sack containing the heads of his enemies, the evidence of his heroic exploits. On coming up he handed over the prisoners as presents to the Khan, or some other great personage ; then loosened his sack, seized it by the two lower corners, as if he were about to empty potatoes, and there rolled the bearded or beardless heads before the accountant, who kicked them together with his feet until a large heap was composed, consisting of several hundreds. Each hero had a receipt given to him for the number of heads delivered, and a few days later came the day of payment."

When, after a month's stay in the capital, the travellers reassembled to proceed on their journey, their condition presented a striking contrast to that in which they entered the city. Only in the case of the more stingy were any traces of the former rags seen, snow-white turbans took the place of the torn felt caps, the knapsacks were well filled, and the poorest had his small ass to ride upon. Vámbéry, besides his ass, had a share in a camel, and even attained to the dignity of a shirt, but he took care, he says, not to put it on,

as it might have rendered him effeminate. It was amid many demonstrations of affection and religious zeal that they bade farewell to the Khivites, and rode out of the Urgendi gate.

Having safely crossed the Oxus by means of the ferry, the caravan followed the course of the river a little beyond Tünüklü, the ruins of an ancient fortress on a little hill. They were soon driven back to Tünüklü, however, by the report that there were some mounted Turkomans in the neighbourhood, who would not hesitate to plunder them, pious pilgrims as many of them were. The fear of these robbers threatened to disorganize the caravan entirely, but happily in the end all agreed to throw themselves into the sandy desert of Khalata Tchöle rather than fall into the hands of the Turkomans. Stealthily and noiselessly at first they crept across the desert, for fear of betraying themselves to the enemy, until at midnight they reached a place where they were compelled to dismount on account of the animals sinking to their knees in the fine sand. Vámbéry tried to walk in spite of his lame leg, but his hand swelling with continually resting upon his staff, he was obliged to put his baggage on the ass and mount the camel. Morning revealed nothing to the eye but sand here in billowy-like masses, there like the smooth face of a lake rippled by the west wind. No living creature could be discerned on the surface of

this desert, or in the sky above it, and the only signs that anything with life had been there before them were the bleaching bones of the men and beasts that had perished upon its ungenerous breast. That it had no kindness to show even to pious hadjis they were not long in discovering. Obligated to march during the scorching heat of the day, not only did the water diminish every moment from evaporation or some other cause, but two of the camels succumbed to the heat and to the torments of the sand. Two of the poorer travellers also, who had been obliged to tramp on foot by the side of their feeble animals, fell sick, and had to be bound full length upon the camels. So long as they were able to articulate they kept up the cry, "Water! water!" but as every one was guarding with jealous care the little store that remained to him, not a drop was given to cool their parched tongues. Death soon put an end to the sufferings of one of them.

By the third day they should have crossed the sandy part of the desert, but so weak were the animals that a fourth day had to be passed exposed to its terrible dangers. They now had to meet what had been their great fear all along, the tebbad, or fever wind. Vám-béry must tell the story of that memorable day in his own words: "I had still left about six glasses of water in my leathern bottle. These I drank drop by drop, *suffering*, of course, terribly from thirst. Greatly

alarmed to find that my tongue began to turn a little black in the centre, I immediately drank off at a draught half of my remaining store, thinking so to save my life; but, oh! the burning sensation, followed by headache, became more violent towards the morning of the fifth day, and when we could just distinguish, about midday, the Khalata mountains from the clouds that surrounded them, I felt my strength gradually abandon me. The nearer we approached the mountains, the thinner the sand became, and all eyes were searching eagerly to discover a drove of cattle or shepherd's hut, when the kervanbashi and his people drew our attention to a cloud of dust that was approaching, and told us to lose no time in dismounting from the camels. These poor brutes knew well enough that it was the tebbad that was hurrying on. Uttering a loud cry, they fell on their knees, stretched their long necks along the ground, and strove to bury their heads in the sand. We entrenched ourselves behind them, lying there as behind a wall; and scarcely had we in our turn knelt under their cover when the wind rushed over us with a dull, clattering sound, leaving us, in its passage, covered with a crust of sand two fingers thick. The first particles that touched me seemed to burn like a rain of flakes of fire. Had we encountered it when we were six miles deeper in the desert we should all have perished. I had not time to make observations

upon the disposition to fever and vomiting caused by the wind itself, but the air became heavier and more oppressive than before."

Towards evening they reached some fountains, the water of which, however, was only drinkable by the beasts; but by this time our traveller was completely prostrated. "I was no longer able to dismount without assistance," he says. "They laid me on the ground; a fearful fire seemed to burn my entrails; my headache reduced me almost to a state of stupefaction. My pen is too feeble to furnish even a slight sketch of the martyrdom that thirst occasions. I think that no death can be more painful. Although I have found myself able to nerve myself to face all other perils, here I felt quite broken. I thought, indeed, that I had reached the end of my life. Towards midnight we started. I fell asleep, and on awaking in the morning found myself in a mud hut, surrounded by people with long beards; in these I immediately recognized children of 'Iran' (Persia). They said to me, 'You certainly are no hadji.' I had no strength to reply. They at first gave me something warm to drink, and a little afterwards some sour milk mixed with water and salt, called here 'airan': that gave me strength and set me up again." These good Samaritans were nothing else than poor Persian slaves, placed here in the middle of *the wilderness* by their owners to tend sheep. In order

to prevent them from making their escape they were only provided with the scantiest supply of bread and water, and yet such was their magnanimity that they shared their little store of water with their arch-enemies, for such were the members of the caravan! This timely help enabled the travellers to cross the most dangerous part of the desert, and soon after they were safe within the walls of Bokhara, the Paris of the Tartar.

Vámbéry, dressed like a Bokharist, with an immense turban on his head and a large Koran hanging suspended from his neck, was received everywhere as a great saint by the people; but, on the other hand, the Government surrounded him with spies, who tried every method to entrap him into a betrayal of himself. Vámbéry was, however, more than a match for them. Indeed, his presence of mind, tact, and resources were worthy of a better cause. Failing in their endeavours, the Government officials left him to live a quiet life in Bokhara. A favourite resort with him was the book bazaar, but he could not buy many books, or rather manuscripts, both because he had not the means and because, as a dervish, he dared not show any special interest in worldly knowledge. His heart bled to leave behind him manuscripts that would have been of incalculable value to Oriental historians and philologists. He enjoyed so many of the comforts of civilized life in

Bokhara that he was really sorry when the time came to leave it to continue the journey to Samarcand.

When the start was made Vámbéry found the caravan had dwindled down to ten carts. These vehicles were of a very primitive description, and travelling in them was anything but a pleasure. His companion Hadji Salih and he were continually having their heads knocked together, and for the first few hours Vámbéry was quite sea-sick. The journey to Samarcand, however, was accomplished without much trouble. Our traveller had now reached the limit of his wanderings. He would fain have gone further west, but purse and prudence said, "Enough for the present." Before leaving the city he had an audience with the Emir, when he not only succeeded by his ready tongue in quieting the suspicions which had been instilled in this ruler's mind, but in carrying away a handsome present of clothes and money.

At last the hour came when he must bid farewell to those who had been constant and loving friends to him during the whole period of their six months' wanderings together. "My heart," he writes, "seemed as if it would burst when I thought that I was not permitted to communicate the secret of my disguise to these, my best friends in the world—that I must deceive those to whom I owed my life. I tried to imagine a way. I wished to make trial of them; but religious fanati-

cism, to be found sometimes even in civilized Europe, has a fearful influence upon the Oriental, and particularly so upon the Islamite. My confession, in itself a capital offence by the law of Mohammed, might not, perhaps, for the moment have severed all ties of friendship; but how bitterly, how dreadfully would my friend Hadji Salih, who was so sincere in his religious opinions, have felt the deception! No, I determined to spare him this sorrow, and to save myself from any reproach of ingratitude. He must, I thought, be left in the fond delusion. After having commended me to some pilgrims—whom I was to accompany to Mecca—as their very brother, son in fact, as one whom they most valued, they accompanied me after sunset to the outside of the city gate, where the cart that my new companions had hired for the journey to Karshi was waiting for us. I wept like a child when, tearing myself from their embraces, I took my seat in the vehicle. My friends were all bathed in tears, and long did I see them—and I see them now—standing there in the same place with their hands raised to heaven, imploring Allah's blessing upon my far journey. I turned round many times to look back. At last they disappeared, and I found I was only gazing upon the domes of Samarcand illuminated by the faint light of the rising moon."

Vámbéry, not much caring for his new travelling

companions, attached himself to a young Mollah, who hoped to proceed in his company to Mecca, but who found himself instead in the streets of Pesth! The first stage on the return journey, which was to be made in a south-westerly direction, from Samarcand was Karshi, where our traveller bought an ass and laid in a little stock of knives, needles, thread, glass beads, Bokharist sacking, &c., to sell to the nomad tribes they might meet on the way.

On crossing the Oxus and landing at the fortified city of Kerki they were seized as runaway Persian slaves, but were not long kept in durance. Finding that Mollah Zeman, the chief of a caravan proceeding from Bokhara to Herat, would not arrive for some eight or ten days, Vámbéry spent the time in journeys among the Turkomans, thereby adding greatly to his knowledge of these people. When the caravan started our traveller found himself in a motley company, one half of whom, perhaps, were emancipated slaves returning home under the guise of hadjis, as they were very likely to be taken again by their ruthless enemies and resold into slavery. There were no fewer than four hundred camels, one hundred and ninety asses, and a few horses in the train, so that the sight on starting must have been rather imposing. At a place called Andkhuy Vámbéry tried to open a market with the people, but as they offered only bread and fruit in ex-

change for his goods he could do no business at all. His experience at Maymene, where he spent over a week, was little better, "but habit," he says, "and the hope of returning to Europe enabled me to bear my burden. I slept sweetly enough on the bare earth, esteeming myself especially happy in having no longer to dread constant discovery or death by torture, for my hadji character excited suspicion nowhere."

Nothing of any importance happened to Vámbéry until he entered Herat. Necessity compelled him to sell his ass at once, but as it was in bad condition through the journey he got little for it. That little became still less after he had paid the tax upon the sale and discharged a few little debts. To add to his critical condition, he had to sleep, with scanty clothing, in an open ruin on the bare earth, and the nights were now bitterly cold. Moreover the leader of a caravan about to start for Teheran refused practically to let him follow in his train, and he was thus left alone with his devoted friend Mollah Ishak. This young man obtained the daily food and fuel by begging, prepared the meals, and waited on Vámbéry, respectfully declining to share with him out of the same plate. Not, however, to neglect any expedient to forward his journey, Vámbéry paid a visit to the reigning prince, a lad then in his sixteenth year. When he entered the reception hall he found the prince seated in an arm-chair near

a window, and surrounded by his officers. "True to my dervish character," says Vámbéry, "on appearing I made the usual salutation, and occasioned no surprise to the company when I stepped, even as I made it, right up to the prince, and seated myself between him and the vizier, after having required the latter, a corpulent Afghan, to make room for me by a push with the foot. This action of mine occasioned some laughing, but it did not put me out of countenance. I raised my hands to repeat the usual prayer required by the law. Whilst I was repeating it the prince looked me full in the face. I saw his look of amazement, and when I was repeating the Amen, and all present were keeping time with me in stroking their beards, the prince half rose from his chair, and, pointing with his finger to me, he called out half laughing and half bewildered, 'I swear you are an Englishman!' A ringing peal of laughter followed the sudden fancy of the young king's son, but he did not suffer it to divert him from his idea; he sprang down from his seat, placed himself right before me, and, clapping both his hands like a child who has made some lucky discovery, he called out, 'I would be thy victim! Tell me! you are an Englishman in disguise, are you not?' His action was so naïve that I was really sorry that I could not leave the boy in his illusion. I had cause to dread the wild fanaticism of the Afghans, and, assuming a man-

ner as if the jest had gone too far, I said, 'Have done ;
 you know the saying, "He who takes, even in sport,
 the believer for an unbeliever, is himself an unbeliever."
 Give me rather something for my Fatiba, that I may
 proceed further on my journey !' My serious look and
 the hadjis which I recited quite disconcerted the young
 man ; he sat down half ashamed, and, excusing himself
 on the ground of the resemblance of my features, said
 that he had never seen a hadji from Bokhara with
 such a physiognomy. I replied that I was not a
 Bokharist, but a Stambuli, and when I showed him my
 Turkish passport and spoke to him of his cousin, the
 son of Akbar Khan, Djelal-ed-din Khan, who was in
 Mecca and Constantinople in 1860, and had met with
 a distinguished reception from the Sultan, his manner
 quite changed ; my passport went the round of the
 company, and met with approbation. The prince gave
 me some kraus, and dismissed me with the order that
 I should often visit him during my stay, which I ac-
 cordingly did." Although Vámbéry succeeded thus
 cleverly in allaying the suspicions of the prince, he
 was continually pestered with people who seemed
 determined to detect in him the Englishman.

He was therefore devoutly glad to leave Herat with
 a caravan of some 2,000 persons bound for Meshed.
 On leaving the city he thought it unnecessary to be so
 careful in keeping up his disguise, and as a consequence

the people with whom he was travelling began to quarrel among themselves as to what he really was; but not until safe in Meshed did he dare to throw off his disguise altogether. In the city he found a sincere friend in Colonel Dolmage, an Englishman then in the service of Persia, who took the wanderer to his home, entertained him, and finally sent him on his way to Teheran rejoicing. With his entry into the Persian capital on the 20th of January, 1864, his sufferings and his wanderings practically came to an end. After having received great kindnesses from the different ambassadors in Teheran and honours from the king, he returned to Europe with Mollah Ishak, and shortly afterwards visited London, where he penned the narrative of his singular adventures.





MARKHAM'S
ARCTIC SLEDGING EXPERIENCES.

WHEN the Arctic expedition, under the command of Sir George Nares, left the shores of England in 1875, Mr. Albert H. Markham sailed as commander of H.M.S. *Alert*. His experiences of the icy north on board the whaler, his boundless enthusiasm in Arctic exploration, and his seamanship, alike fitted him for the high position with which he was entrusted. We are to follow his fortunes as the indomitable leader of the sledging party that reached the most northern latitude ever attained by man; but before doing so it will be as well to give in brief the history of the *Alert* in her struggle with the ice before settling down in her winter quarters.

The *Alert*, with its consort the *Discovery*, sailing from Portsmouth on the 29th of May, 1875, crossed the

Arctic circle on the 4th of July, and two days afterwards anchored in Lively Bay, off Godhaven, the most important Danish settlement in North Greenland. Here twenty-four Eskimo dogs were taken on board for the proposed sledging operations, and were placed under the care of Frederick, an Eskimo native, renowned as a hunter. Hans Hendrik, another native hunter and dog-driver, was engaged at Proven—an invaluable acquisition, for he had been employed in the like capacity by all the American expeditions to Smith's Sound.

The state of the ice in the dreaded Melville Bay was such that the ships had an unprecedented easy passage through of only thirty-four hours' duration. Having established a depôt of provisions on the north-easternmost island of the Cary group, the ships next lay at anchor in Port Foulke. While here Markham accompanied Captain Nares on a visit to Lifeboat Cove, the place where part of the crew of the *Polaris* spent their second winter (1872-73). Out of the *débris* of trunks, boxes, pieces of wood, and odds and ends of all descriptions that lay strewed about over an area of half a square mile, everything of value was collected with the intention of returning them to the United States Government.

Shortly after leaving Cape Isabella the inevitable battle with the ice began, and they were detained for

five days in a little harbour somewhat south of Cape Sabine. The time, however, was not altogether lost; for a considerable number of geological and botanical specimens were collected, and some of the officers and men received their first lessons in the art of sledging. After a short visit to Hayes Sound a lead in the ice was followed until off Albert Head, where the ships had a miraculous escape from being crushed to atoms between the drifting floe to which they were attached and a grounded iceberg. Fighting their way slowly but doggedly, the ships reached Cape Hawks, a magnificent promontory which has been compared with some fitness to the rock of Gibraltar. The vessels were made fast to an iceberg, and a large dépôt of provisions together with a jolly-boat were deposited on shore. A dock was cut in the ice of Dobbin Bay, where the ships lay two days, when a lead being observed all hands set to work to blast a passage out. This was successfully accomplished, and the ships steamed into a fine stream of water round Cape Louis Napoleon. But in a very few hours they came upon a field of ice which seemed hopelessly impenetrable. For three days they had to remain here, often in great peril, until on the 19th of August the ice slackened sufficiently to enable them to proceed. On that evening Cape Fraser was rounded. A little beyond Cape Collinson all the leads northward were found closed, and advantage was taken of the

delay to land a small depôt of provisions. By and by, such is the rapidity of the change that takes place in these regions, a passage opened up, and the ships were plying under steam and sail in a vast expanse of water with very little ice upon it. A splendid run was made as far as Cape Morton; but here again solid floes of ice extended right across Hull Basin, effectually barring the way. The *Discovery* landed a small depôt of provisions, and then both ships turned back and cast anchor in Bessels Bay. A lead appearing to open up to the west, the vessels picked their way across Lad Franklin Strait, and took up their position in a harbour near Cape Bellot. Here it was resolved that the *Discovery* should winter, and accordingly on the 26th of August the *Alert* steamed out alone to pursue the journey northward.

The *Alert* had not got clear of the harbour before fresh difficulties began. The ice closing rapidly prevented an egress for some time, and when a lead appeared the ship grounded in the attempt to cant her. By lightening her as much as possible, however, she floated on the rising tide, and fair progress was made until about a mile from Cape Beechey. Here the ice again formed such an impassable barrier that the *Alert* returned a few miles to the south, where she was secured to an ice floe. The next day Captain Narves, observing an opening in the pack from the summit of

a high hill, steam was got up, and after a narrow escape from the floes closing into the land, the *Alert* reached Lincoln Bay, where she lay secured to a large floe. Before leaving this neighbourhood a large depôt of provisions was landed, and a cairn erected on the brow of the hill immediately above the depôt. The usual records were deposited in the cairn. On Wednesday, September 1st, a gale from the south-west blew with such fury that the ice was driven off the land, and a narrow lane of water was thus formed to the northward along the coast. The opportunity was eagerly seized, and the good ship was soon scudding along at the rate of ten knots an hour. The joy on board was all the greater through the knowledge that a higher latitude had that day been reached by the *Alert* than any other ship on record. Not long, however, did the joy last; for after rounding Cape Union the ice once more formed a dead block. However reluctantly, the officers were compelled to come to the conclusion that they had arrived on the shore of the Polar Ocean, and that the idea of "an open Polar Sea" must be dismissed from the imagination. In case of accident to the ship, and for the use of southern travelling parties, a depôt of provisions, consisting of two thousand rations, was landed, which done, there was nothing for it but to wait and see what the next step should be. Meantime, while trying to make the safety of the ship more secure,

...the small ...
...clean out of his ...
...dropped; but the ...
...the whole body of ...
...the ship in great ...
...saying" says Markham. "The ...
...the ground, the ...
...of their friendly ...
...it was a case of ...
...The men, always so ...
...the present, responded ...
...of hard work we ...
...position. We were ...
...a case between the ...
...later was, fortunately ...
...reached our place ...
...contact with the ...
...most unpleasant ...
...strade, in a very ...
...which we should have ...
...fortunate enough to ...
...Although the position ...
...lost, or even most ...
...making a reconnaissance ...
...the water quarters ...
...winter was ...
...put on its ...

They were to advance as far north as possible along the land, and establish a large depôt of provisions to be used by the main exploring parties to be dispatched in the ensuing spring. The provisions were all carefully weighed and packed, 201 lbs. being the maximum weight to be dragged by each man. This, however, decreased at the rate of 8 lbs. per diem. "All started in the very best spirits, animated by the same desire to do their utmost, and to achieve as far as in them lay success and honour for the expedition;" but they had not gone a mile before Parr's sledge went through the ice. When, after a quarter of an hour's hard tugging and hauling it was once more on the firm ice, everything was so saturated that the sledge was sent back to the ship and another substituted. Starting again, all went well for three miles, when all of a sudden Markham heard a crack, and turning round, saw that his own sledge had gone through. The tent and gear were of course saturated, and the biscuits were nearly all spoilt, but thinking it unadvisable to return to the ship, they repacked and started afresh. The men tugged on merrily in spite of raw shoulders through dragging, and the necessity at times of clearing a road with shovels, for the snow began to fall on the third evening, and continued to fall until their return to the ship. Gales of wind were often a serious hindrance, necessitating a halt, both because it was impossible to see through the

drifting snow, and because the cold wind produced frost bites.

On the 4th of October, half of the provisions being consumed, and heavy travelling homeward having to be reckoned on, it was decided to return. Accordingly, when the depôt of 870 lbs. of pemmican and 240 lbs. of bacon had been established, the return journey was commenced. Greatly diminished as were the loads of the sledges, the dragging of them proved much more laborious than on the outward journey, owing to the accumulation of the snow and a sudden fall in the temperature, which caused many severe frost-bites. "On the 9th," says Markham, "the temperature was 15° below zero, and the boots, stockings, and foot-wrappers were frozen to the men's feet. On coming down the hills the sledges had literally to be lowered to the ice first from a height of two hundred and fifty feet, at a very steep angle. Thence it was necessary to follow the shore, where enormous hummocks of ice were piled up, having huge cracks and fissures, into which we sunk to our necks in snow. In crossing some sludgy ice between the hummocks, on the 11th, Lieutenant May unfortunately went through, and was so severely frost-bitten that he eventually had to suffer amputation of one of his great toes." When the *Alert* was reached, which happened on the 14th, half of the party were placed on the sick list owing to frost-bites.

The sun took his departure on the 11th of October, but for a good many days there were about five or six hours each day of sufficient light for the crew to make the necessary preparations for the winter season. Provisions were landed in case any accident should happen to the ship, an observatory was erected, and snow-houses built for various purposes. The ship was also prepared in a way that the experience of a former expedition had pointed out as the best for those on board during the reign of intense cold. And extra warm clothing was also served out to the men. Exercise so many hours a day was rigidly enforced, a school was opened on the lower deck, a printing-press set up, while entertainments and lectures were of very frequent occurrence. In this way the dark winter passed away very happily, and all on board seemed to enjoy very good health in spite of a certain sallowness of complexion which the returning light revealed. It was, however, too manifest afterwards that the seeds of that disease which is the sailors' scourge, a disease which made its appearance at a most unfortunate period, must have been sown during the winter.

With the growing light the men were employed in re-embarking the stores, and getting ready for the spring sledging campaign. On the 2nd of March the sun returned, and by the middle of the month the quarter-deck housing was removed, and daylight was

once more enjoyed on the upper deck. During every day the crews of the different sledges had several hours of exercise, when some idea was gleaned of the nature of the work that lay before them.

When the time arrived for the sledging to begin in real earnest, the men were divided into three parties. One of these, under the command of Aldrich, the first lieutenant, was to explore along the coast line to the westward ; another, under Commander Markham, was to push across the rugged polar pack, and endeavour to reach as high a northern latitude as possible ; and the third was to act as auxiliary to these two advanced parties. The start was made on Monday, April 8rd, 1876, after prayers had been read by the chaplain, and all had joined in the hymn,

~ "Praise God from whom all blessings flow."

For a considerable part of the way the sledges kept together, only parting on the fifth day. The supporting sledges then returned to the ship, and the two exploring parties then separated to carry out their special missions.

Before following the fortunes of the northern division, it may be as well here to say a word or two about its equipment. Each sledge was provided with a tent made of the lightest duck, sufficient to protect the eight men when inside against the drifting snow and the

cutting wind. "The space inside was of necessity very limited, the width in which each man had to sleep being only fourteen inches. Whilst his head was touching one side of the tent, his feet were in contact with the other. The slightest movement of the sleeper during the night would disturb his neighbours on either side. The entrance to the tent had a porch attached to it, which was of course always carefully closed, and served to exclude the fine snow-drift that would otherwise have penetrated into the interior. The opposite side of the tent was fitted in a similar manner for the protection of the cook whilst engaged in preparing the meals." Each man had a sleeping rug made of duffel, and a knapsack containing two pairs of blanket wrappers, a pair of nodmill hose, a pair of moccasins, a skull-cap and a woollen cap, two pairs of mitts, a flannel shirt, a pair of drawers, a comforter, a pair of snow spectacles, a towel, and a piece of soap. The sledge contained besides two pickaxes, a shovel, medical stores, instruments, gun and ammunition, cooking apparatus, a sail, coverlets, &c. Two boats were also included to provide against the possibility of the ice of the frozen sea breaking up.

The clothing worn by the men every day is thus described by the leader. "Our under-clothing was made of thick flannel. Over this we wore one or two flannel or check shirts, long-sleeved winter waistcoats,

thick knitted guernseys, and duffel trousers, the latter reaching about a foot below the knee. All wore broad flannel belts, commonly called cholera belts, round their loins. On our heads we had woollen helmet caps, called by the men 'Eugenies,' and over this was worn a thick seal-skin cap with ear and neck flaps attached. Our feet were encased in blanket wrappers, one or two pairs according to the temperature, a pair of thick woollen hose reaching above the knees and worn over the trousers, and moccasins. The latter, as supplied to us, only came up round the ankle, so we fitted them with leggings. Those who were provided with chamois leather made their leggings of that material, but the majority cut the sleeves off their check shirts, which, when sewn to the moccasin, answered admirably, their chief use being to keep the snow from penetrating into the trousers. Some of the moccasins were also soled with leather, obtained by cutting off the upper part of the fishermen's boots, a pair of which had been supplied to each person. As a rule these soles were quickly worn out, and the men were soon reduced to the bare moccasin, which, however, lasted wonderfully. Large gauntlet mitts were made during the winter, a fear-nought covered with duck, and worn with a strap round the neck. These were only supplied to the sledgers, and were found very useful. At night-time they were used on the feet in the sleeping bags, and certainly

assisted very materially in keeping them warm. Finally, each person was provided with a suit of duck overalls to act as snow repellers, which were always worn whilst on the march. As a precaution against snow blindness the men were ordered to paint some device on the backs of these snow jumpers, in order to afford a certain amount of relief to the eyes of their comrades."

The northern division had scarcely lost sight of ~~the~~ ^{their} comrades before the serious obstacles that were so ~~p~~ ^{per-}sistently to impede their progress were ~~immediat~~ ^{ely} encountered. A road had to be constructed for ~~the~~ sledges, so rugged and hummocky was the ice—a ~~t~~ ^{task} of no easy character. In order to make any ~~adv~~ ^{ance} at all, pickaxes and shovels had to be in constant ~~use~~, and so deep was the ice about the hummocks that ~~the~~ men floundered in it up to their waists. Sometimes, before the sledges could be dragged through this ~~d~~ ^{deep} soft snow, they had to be unpacked. So constant ~~was~~ the necessity for the use of the pickaxes that they ~~w~~ ^{were} looked upon with "great affection," and "treated ~~w~~ ^{with} the utmost tenderness and care." Any mishap to ~~th~~ ^{them} would have been a great misfortune, as without ~~th~~ ^{them} the expedition would have been unable either to advance or return.

In order to prevent snow blindness the time ~~cho~~ ^{sen} for travelling was between noon and midnight, ~~wh~~ ^{when}

the sun for the most part would be at the back of the travellers. So beautiful did the ice appear on clear days that the ground seemed strewn with diamonds and all manner of precious gems, but the men, with faces black with smoke and scarified by the action of snow and frost, with the tops of their fingers senseless from frost-bites, and with sore shoulders and aching limbs, were to be pardoned if they did not appreciate to the full the beauty that lay around them.

The general order of the day's proceedings was as follows. At an early hour the cook for the day arose, and, lighting his lamp, melted sufficient ice or snow for the morning meal. Then re-entering the tent, and walking on his sleeping comrades, he commenced to brush the condensed moisture from the top and sides of the tent. This done, and the coverlet well shaken, folded, and placed on the sledge, he prepared breakfast and awakened the party. This consisted first of a panikin of cocoa, and afterwards of pemmican. As this took some time to prepare, being quite frozen, prayers were read, the foot gear changed, and the sleeping bags rolled up. After breakfast the tent was struck, the sledge packed, and the march commenced. A halt was not called again until five or six hours, when lunch, which consisted of four ounces of bacon, a little biscuit, and a warm panikin of tea was discussed. The cold was generally so intense that

during the time tea was getting ready—about an hour or an hour and a half—the men had to be constantly on the move to avoid frost-bites. After lunch another march of from ten to twelve hours followed before halting for the night. A suitable site for the tent had then to be selected, and the snow banked up outside two or three feet high. Every one except the cook, who was busy with the evening meal, assisting in the work. As soon as the tent was ready, the men entered, changed their foot gear, and struggled into their half-frozen bags. Supper, which consisted of tea and pemmican, was then served, after which followed pipes and the allowance of grog. Before going off to sleep, some time was very pleasantly spent in singing, in reading, or in conversation. The cook then handed in the coverlet, closed the door of the tent, and all lay down to rest for the night.

On the 18th of April, after cutting a road through two large fringes of hummocks, the passage was barred by a mass of enormous fragments of ice piled up to the height of twenty or thirty feet. There was no alternative but to cut through this gigantic obstacle. The men, however, worked with such a will that by night the pile was left behind.

The next day one of the men complained of pains in his knees and ankles. When they were examined they were found to be much swollen, but little did anybody

think that it was the first attack of a disease which was to threaten the very life of the party.

Easter Sunday was without exception the most wretched and miserable any one of the men had ever spent. The temperature was 67° below freezing point, and a gale of wind, with blinding snow-drift, made it impossible to leave the tent. "For forty hours," Markham says, "he had not the slightest feeling in his feet, and as for sleep it was out of the question."

When the wind moderated the tents were struck and packed, the sick man placed on the sledge, and the march resumed. By Tuesday another man fell ill in the same way, making advance still more difficult. Some of the floes crossed were of different thicknesses, so that not unfrequently a distance of six or seven feet had to be dropped or surmounted by the laden sledges, a trying task indeed.

On the 19th of the month, a quarter of a mile only having been covered after toiling hard for three and a half hours, the leader determined to abandon the largest boat. He could not bear to see the men slaving in the attempt to drag on the heavy sledge and boat, and besides he judged that, should a disruption occur on the ice over which they were travelling, the boats would be of little service, except to ferry them from one floe to another. The position where she was left being fixed by obtaining a round of angles, everybody was

well pleased to get rid of her. "We travelled over deep and uneven snow ridges," writes Markham in his diary, "and experienced great difficulty in getting from one floe to another, on account of the perpendicular drop. Before halting we got on to some young ice amongst the hummocks, along which we rattled gaily, actually performing a distance of about half a mile in something like two hours! This is good work for us. It must be remembered that we have to advance three sledges, and to do this we have to walk over the same road five times!" The same day another man was compelled to fall out from the drag ropes with a badly swollen ankle.

Pushing on in spite of fog, keen cutting winds, frost-bites, and frequent tumbles into cracks and fissures, unseen through the covering of snow, they came on the 28rd to the verge of a floe with enormous hummocks so squeezed up in front that the prospect of advancing was anything but cheering. The greater part of next day was spent in cutting a way through an apparently interminable sea of hummocks, but they had the satisfaction of knowing that they had crossed the eighty-third parallel of latitude, and that they were the first party of men that had ever penetrated so far. Two days later the same difficulties with the hummocks were still experienced, and, in addition, the handles of the shovels broke, and two more of the men exhibited

symptoms of the disease. On the 28th the temperature rose to two degrees above zero, but the travelling was as trying as ever, while the weather became so thick that it was extremely difficult to select a route.

The 1st of May was bright and sunny, but the invalids were very faint and weak, and were a great drawback to their comrades who had to do the work. The two officers acknowledged to themselves that the disease that was attacking the band was nothing else than scurvy; but they considered it of the utmost importance that no suspicion of the fact should enter the minds of the men themselves. Accordingly, they led on their little band to face the trying difficulties of the way, cheering the hale, and nursing as much as possible the sick. But travelling became more and more arduous on account of the ice and the invalids. Writing in his diary on the 9th of May, Markham thus describes the work of that day. "Lightening two of the sledges of about half their loads, two of the sick men were placed upon them, and these were dragged to the limit of the road made yesterday. Here the tent was pitched, the two invalids placed inside, the sledge unpacked and dragged back. In this manner we succeeded in advancing during the day a distance of about three-quarters of a mile; but so tortuous was our road, and so often had it to be traversed, that to accomplish this short distance we

had to walk about seven miles, and this through deep snow." Three more men complained of aching in their limbs.

The next day the sledges were advanced in the same manner ; but so distressing was it to see the exertions of the men at their work, and to witness the sufferings of the sick, that the leader resolved to make that camp the limit of their journey. Besides, there were only sufficient provisions left for thirty days to take them back over a distance which had occupied them forty days to advance.

Two days were spent in resting and nursing the sick and in making scientific observations. In order to insure being within four hundred miles of the North Pole a party of ten set out on the 12th to go still further north. When a halt was called and an altitude taken it was found that they were distant 899½ from the Pole. The scene which stretched out before their eyes was a very dreary and desolate one, reminding the leader of a couplet in the "Ancient Mariner"—

" The ice was here, the ice was there,
The ice was all around."

The homeward march was commenced at three o'clock on the afternoon of the 18th of May, after a couple of records inclosed in tin cases had been deposited in the floe.

Day by day, as the journey was pursued, the strength of the little band of explorers decreased. The men, who one after another began to feel the grasp of the terrible disease, struggled bravely on, dragging their more helpless comrades. "Unmindful of their own miserable plight, they devoted themselves to the tender and soothing functions of nurses with a thoughtful and careful tenderness that would have done credit even to those of the weaker sex." Their appetites failed them, but never their cheerfulness. Even when the nature of the malady was beyond all doubt, they only joked about it as they hobbled along.

The time selected for travelling was between 6 p.m. and 6 a.m. In this way the sun was kept as much as possible at their backs, and they were able to sleep during the warmth of the day. Frost-bites now became a thing of the past, the temperature of the huts sometimes rising to 80° while they slept. "Snow fell heavily during the greater part of the time of the return journey, and fogs were very prevalent. Gales of wind had to be endured, for to halt was out of the question—rest there was none—onward was the order of the day."

On the 18th icicles were observed, an indication of the returning power of the sun, while there were not wanting ominous signs of a disruption of the pack. It was therefore very necessary to get off the pack

as soon as possible. But progress was no easy matter. Though the provisions were necessarily diminishing the sledges seemed to drag heavier, partly owing no doubt to the depth and softness of the snow, but mostly owing to the weakness of the men. The slightest exertion caused them intense pain, and it was with great difficulty they moved their legs. By and by the snow became so "sludgy" that it clung tenaciously to their legs and the runners of the sledges, making the work of dragging all the more laborious. "On the 27th," says Markham, "the condition of the party was so critical that it became only too painfully evident that, to insure their reaching land alive, the sledges must be considerably lightened in order to admit of a more rapid advance. The state of the party was on that day as follows: five men were in a very precarious condition, utterly unable to move, and consequently had to be carried on the sledges; five others nearly as bad, but who nobly persisted in hobbling after the sledges, which they could just manage to accomplish, for, as the sledges had to be advanced one by one, it gave them plenty of time to perform the distance; while three others exhibited all the premonitory scorbutic symptoms. Thus only the two officers and two men could be considered as effective! This was, it must be acknowledged, a very deplorable state of affairs."

There was no alternative, but to abandon the second boat, and chance a probable disruption of the pack. It was not without many a silent prayer for help that the boat, with a brief record of the state of affairs deposited in it, was left behind. The next day the sudden appearance of a snow bunting caused not a little joy, for it was the first bird they had seen for nine months.

Another warning that delay would be dangerous came on the last day of May. Whilst crossing some young ice between two heavy floes, one of the sledges broke through, almost drowning the invalid who was in it. The falling snow-drift also thawed upon their clothes, making them wet and uncomfortable. On the fifth of June, to the great joy of all, land was reached in safety. Recent traces of a sledge and human footprints excited hopes that help might be near, but on reaching the depôt near Cape Joseph Henry, they learned to their sorrow that a sledge party had left only two days previously, and that scurvy had broken out on the *Alert*.

Three hares had, however, been thoughtfully left behind, and were greatly relished by the invalids. Taking a few supplies from the depôt, the march was again resumed, but it soon became apparent that if the party was to be saved immediate succour must somehow be obtained. They were only forty miles from the ship, but at the rate of progress they were making it

would take them fully three weeks to reach it. On the 7th Lieutenant Parr started on an arduous march to the *Alert* for help, but help would come too late for one at least. The very next day the man Porter died, and was buried in a grave dug out of the frozen soil, his comrades not being ashamed of the tears that stole down their weather-beaten and smoke-begrimed faces. After erecting a rude cross over the spot where their comrade was to sleep his last long sleep, they resumed their march in gloom and despondency. If succour did not come speedily, who might not be the next to drop out of the ranks?

But succour was close at hand. "On the 9th," says Markham, "shortly after the march had been commenced, a moving object was suddenly seen amidst the hummocks to the southward. At first it was regarded as an optical illusion, for we could scarcely realize the fact that it could be anybody from the *Alert*. With what intense anxiety the object was regarded is beyond description.

"Gradually emerging from the hummocks, a hearty cheer put an end to the suspense that was almost agonizing, as a dog-sledge with three men was seen to be approaching. A cheer in return was attempted, but so full were our hearts that it resembled more a wail than a cheer.

"It is impossible to describe our feelings as May and

Moss came up, and we received from them a warm and hearty welcome. We felt that we were saved ; and a feeling of thankfulness and gratitude was uppermost in our minds, as we shook the hands of those who had hurried on to our relief the moment that Parr had conveyed to them the intelligence of our distress. Those who a few short moments before were in the low depths of despondency, appeared now in the most exuberant spirits. Pain was disregarded and hardships were forgotten as numerous and varied questions were asked and answered."

The following day they were joined by the larger party coming out to their assistance ; and on the 14th of June, after an absence of seventy-two days, they were once more on board the *Alert*, where they would enjoy the rest and nursing they so much needed. Soon after, when Aldrich's party had returned in the same condition as Markham's, the *Alert* was turned into an hospital, but thanks to the skill and unremitting attention of the medical staff, the sufferers in due time completely recovered.

A discovery worthy of note was made by the explorers when they returned on board, viz., that their hair had turned quite white. " The loss of colour was gradual, and, although noticed, was never attended to, each one imagining that his companion's hair was turning grey from the effects of hardship and anxiety."

The *Alert* soon after left her winter quarters, and, joining the *Discovery*, both vessels made for home. Great was the excitement in England, warm was the welcome given to the members of the expedition when the two ships steamed into Portsmouth and dropped anchor there on the 2nd of November, 1876.





SERPA VENTO'S CAMP.



*MAJOR SERPA PINTO'S
JOURNEY ACROSS AFRICA FROM THE
ATLANTIC TO THE INDIAN OCEAN.*

IN August, 1877, an expedition sent out by the Portuguese Government for the exploration of South Central Africa landed at Loanda, on the west coast. It was commanded by Major Serpa Pinto, a gallant young officer who added to some previous practical knowledge a long and enthusiastic study of the history and geography of the great continent. Two others were associated with him in the command—Lieutenants Ivens and Capello—but at an early stage of the journey they marked out a course for themselves, and he was left alone to perish with the expedition in the unknown wilds of the interior, or to carry it safely through to the end, as the case might be. That he did carry it through to the end, in spite of innumerable

difficulties and obstacles, entitles him to a foremost place in the ranks of African explorers.

No sooner had Pinto planted his foot on African soil than his difficulties began. Carriers for the baggage loads were not to be found at Loanda, and consequently he was compelled to seek them elsewhere. He went at once to Benguella, where he succeeded in finding a few, but not a sufficient number of, carriers. Silva Porto, a Portuguese trader, came to his rescue, and undertook to see that the greater part of the baggage, some four hundred loads, should be forwarded to Bihé. At Domba, the first stage of the journey, Pinto found that some luggage sent there by sea would necessitate the services of a hundred men more than those already with him. These, however, in spite of all efforts, were not to be found, and Pinto was obliged to be content with pouncing upon thirty men sent from Quillengues by the military *chefe* to fetch some baggage belonging to him. The march to Quillengues was an arduous and trying one, and when Pinto reached that place he was prostrated for several days with a severe attack of fever.

Having laid in a good stock of food, the expedition left Quillengues on the first day of 1878. Caconda was reached in due time, and there the hunt for carriers had to be resumed. A certain number was promised by *Bandeira*, a local potentate, but when the time

came to redeem his promise he sent word that not a single carrier was ready or ever likely to be. Pinto could not help suspecting—and his suspicion was afterwards confirmed—that his own countrymen were doing all they could to place obstacles in his way.

Taking with him six Benguella men, his young negro Pepeca and Verissimo Gonçalves, and accompanied by Lieutenant Aguiar, the *chefe* of Caconda, Pinto set out for the Huambo country in the hope of securing carriers. Fever again attacked him, but he pressed on and succeeded in obtaining forty carriers at Quingolo, and these he sent back to Caconda, while he himself went on to seek further help from the chief of Huambo. Arrived there, he sent word to Ivens and Capello that he was anxiously awaiting them, and counselled them not to part from their loads as the country was in a very insecure state. Judge of his feelings when he received a letter from his companions saying that they had resolved to go on alone, and that they had sent him forty loads to convey to the Bihé! What was to be done? Should he turn back to Benguella, or was it possible for him to go on with only ten men? Pinto passed a fearful night in trying to decide the question, but by morning he had made up his mind: he would go on, inspired by the old Roman watchword, *Audacia fortuna juvat*. When told of the state of affairs, and his resolution to go on to the Bihé,

his men assured him that they would stand by him to the last.

The chief having provided forty bearers, the journey was commenced; but during the first night the natives decamped, leaving their loads in the village where they had been resting. Quimbungo, the chief of the village, managed to secure others in their stead, but as they demanded payment in advance, and were refused, they disbanded. Quimbungo assembled some of his immediate followers and ordered them to accompany Pinto, but the number was so small that twenty-seven loads had to be left to be forwarded to the Sambo. At the village of the native chief of the Dumbo, in the Sambo territory, our traveller had an experience which for several reasons is well worth being given in his own words. The chief had promised him carriers, and Pinto had sent him a present of three bottles of *aguardente*, with a reminder not to fail the next morning in the matter of bearers.

"It was about eight o'clock at night," writes Pinto, "that, in a very bad humour and with an empty stomach, I was about to retire to rest, when I heard a knocking at my door, which was immediately followed by the entrance of my host, the chief Cassom (a visitor), another by the name of Palanca, a friend and principal councillor of my host, and five of the wives of the latter.

"We conversed awhile about my journey, but Cassoma suddenly broke in with the remark that they had not come there to talk, and addressing himself pointedly to his friend he added, 'We want *aguardente*, as you know; so tell the white man to give it to us.' My host, encouraged by the impudence of Cassoma, then told me that I must give him and his wives some liquor. To this I replied that I had already given him three bottles, although he had not offered me bit or sup in return; that it was the first time in the course of my travels I had been allowed by a chief who proffered me hospitality to go to my bed fasting, and that I should not therefore part with another drop of *aguardente*. Cassoma then took up the cudgels and did all he could to awaken the anger of his brother chief. A warm controversy ensued between us, which lasted for more than an hour, and although I managed to keep my temper, my prudence and patience were tried to their utmost limits. Patience and prudence, however, alike gave way when my unwelcome visitors declared that as I would not give them what they wanted by fair means, they intended to help themselves. Pushing the cask towards them with my foot, I seized my revolver and cocking it, asked who intended to take the

sted a moment, when Cassoma cried out
 You are king here, and have a right to

the first swill.' Dumbo threw off his outer garment which he delivered to Palanca with the words, 'Take care the white man doesn't steal it,' and took two steps toward the cask. I raised my revolver to the height of his head and fired, but Verissimo Gonçalves, who stood by me, knocked up my arm, and the ball went crashing into the wall of the hut.

"The three negroes, trembling with fear, retreated to as great a distance from me as the dimensions would allow, and the five women set up a horrible chorus of screams. I then for the first time became conscious of the sound of other human voices, mixed with that laughter so peculiar to the blacks; and looking toward the door, I discovered my faithful followers, Augusto and Manuel, who, on hearing the discussion, had softly approached with the rest of my men in the rear, and now, armed with their guns, were keeping guard at the entrance, and heartily enjoying the scene.

"Verissimo then, in a confidential tone, informed my host and his companions that they had better retire and not say a word to arouse my anger, for that if I should put myself in a rage again he would not answer for the consequences, or be able perhaps to save their lives, as he had done a while ago. They lost no time in taking his advice, and filed off, one behind the other, in the utmost silence."

The next morning Dumbo apologized, and so great

was his hurry to get rid of the white man, that he made up the number of bearers by half a dozen of his slave girls. He also consented that the chief Palanca should accompany the expedition to the Bihé. Pressing on in spite of fever and storms, Pinto came to a place within a mile of the Cubango River. Here his carriers suddenly laid down their loads, and announcing their intention of returning home, demanded payment. All inducements to get them to cross to the other side of the river having failed, Pinto seized the chief Palanca and threatened to hang him on the branch of a tree. The ruse had the desired effect: begging for his life to be spared, he recalled the retreating bearers, and commanded them to take up their loads and follow him to the other side. They obeyed at once, but as soon as they had crossed they were dismissed all except Palanca, who was detained as surety for the loads left behind.

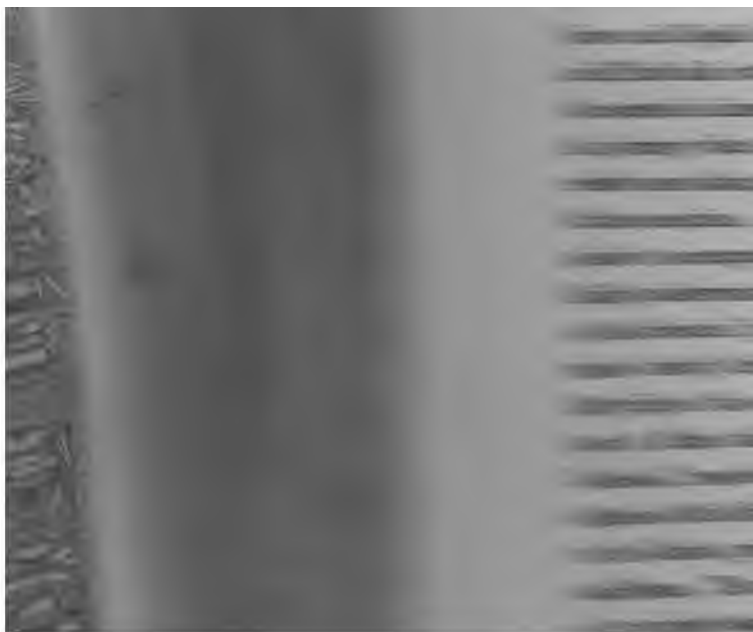
Pinto, finding no difficulty in supplying their places, continued his march. But such a march! Attacked by rheumatism and fever, having to encounter terrible storms of rain, and while still an invalid nearly drowned in crossing the Cuqueima River—little wonder that when he reached the Bihé he succumbed to a severe attack of brain fever and rheumatism. Thanks, however, to the kind offices of Ivens and Capello, who were awaiting him at Belmonte, and to his own constitution, the tide was safely turned, and he

began to get better by slow degrees. It was not likely that under the circumstances he could get well rapidly. Ivens and Capello still chose to go on by themselves, and Pinto had not only to come to a resolution as to the course he himself would pursue, but to prepare for the journey when it had been resolved on. "My resolve once taken," he says, "I lost no time in putting it into execution. I began by engaging Verissimo Gonçalves to accompany me, and managed to make him blindly subservient to my wishes. After patient study of the direction I proposed to pursue, I determined to make directly for the Upper Zambesi, following the lofty ridge of the country in which the rivers of that part of Africa take their rise. On arriving at the Zambesi, I resolved to travel eastward and survey the affluents of the left bank of the stream, and descending to the Zambo, proceed thence to Quillimane by Tete and Senna. The most experienced traders who heard of my project assured me that I should not get half-way to the Zambesi, and I believe they thought me not quite right in my mind to attempt it. I let them talk, and went quietly on with the organization of my staff, and the preparation of the materials necessary for my plans."

Carriers he obtained in sufficient number by the beginning of April, but as a great portion of the baggage had not yet arrived from Benguela he

compelled to wait for it. Meantime he was far from idle. "My life was at that time," he says, "one of incessant toil, and I was using every leisure moment in compiling a book of notes and data, so as to have at hand the formulæ that were necessary for my calculations. Amongst other things, I was making tables of square and cube roots, which I calculated for numbers 1 to 1,000. I drew up, with immense labour, sundry trigonometrical forms; for in Europe, in order to render my tables of logarithms more portable, I had them bound, suppressing the explanatory portions; and through a deplorable oversight, in packing off to Portugal from Loando a quantity of presumably useless baggage, my mathematical books got put up with the rest."

With the delay of the baggage matters grew every day more serious. Not only were the bales of goods left by Ivens and Capello fast melting away in the maintenance of Pinto and his followers, but so little powder and shot remained that Pinto only allowed himself two shots a day for the supply of his larder. Feeling the necessity of being well armed, he made known to the natives that he was willing to purchase all firearms they considered useless. At home he had learned to become a tolerably good gunsmith, so that he soon was in possession of twenty-five additional guns. Ammunition was alone wanting, and this defect did not cost



Major Pinto, with his wonderful fertility of resource, so very much trouble. He once more announced that he was prepared to buy all the old iron brought him, and when he had got some four hundred pounds' weight of worn-out spades, mattocks, hoops, &c., he set four native blacksmiths to work. "The first labour was to reduce all that mass of iron to cylindrical bars of the proper diameter of the bullets. This the fellows succeeded in doing very dexterously. The hoops were made up into bundles 8 inches long by $1\frac{1}{2}$ inches thick, and being taken from the furnace when red-hot, were plunged into a heap of rubbish and water. On their cooling they were again put in the furnace, and having arrived at the proper temperature they were readily dealt with, and reduced into a solid, homogeneous mass. From this point the men's work was easy. Ten thousand bullets were thus made. A complete collection of *Gazeta de Portugal*, which he found in Silva Porto's house, afforded an ample supply of paper for the cartridges, and he was now only waiting for the powder. On the 6th of May, after a long time of weary waiting, it came, and for four days between thirty and forty men were kept hard at work filling the cartridges.

Five days later Pinto had collected the whole of the carriers needed, and having distributed the loads and made all other necessary preparations, gave orders to start on the following morning. In spite of many

previous disappointments he did not dream of another. When the morning came he discovered that all but thirty of his bearers had taken to flight! This blow almost made him lose faith in the undertaking, but it was not a time to sit down and give way to despair. Being advised that he was more likely to get fresh followers on the march than by sitting still in Belmonte, he pitched his camp in a wood at some distance from the village. The step seemed a wise one: so many carriers were engaged that hope began to revive within him, and he set about organizing the new caravan. He had not proceeded on his journey very far, however, when some evil reports were spread among the bearers, and they announced their intention of returning home. Some pombeiros of the neighbourhood promised to provide him with carriers in three days, but the 5th of June arriving without the fulfilment of their promise, Pinto, almost at the point of despair, determined to abandon a lot of baggage and press on with the remainder. Acting upon advice, however, he hired a number of temporary carriers, hoping to get permanent help a little further on. In this he was disappointed, and on the 14th of June he caused sixty-one loads to be destroyed on the banks of the Cuanza.

The passage of the river having been safely effected, Pinto took an easterly direction, penetrating into the country of the Quimbandes. Here he fixed his en-

campment, intending to wait till the 22nd of June for the carriers promised by Capôco. They did not come, and accordingly the next day, having secured bearers sufficient for all the loads except his mackintosh boat, which he left behind in charge of the Sova, camp was struck and the march resumed.

Crossing the rivers Varea and Onda, Pinto arrived at Cabango, the capital of the East Quimbandes tribes. While here he sent two men back for the boat, and four carriers arrived from Capôco. Proceeding now in an east-south-east direction, he came to the country of the Luchazes, and crossing the Bembe found that the people refused to sell him any food. Hoping to find abundance of provisions on the other side of the Serra Cassara Caiéra, a mountain 5,298 feet above the sea-level, he crossed it; but though the natives were friendly and supplied him with guides, food was anything but abundant.

Pinto was now approaching the scene of his principal geographical discoveries—the great Zambesi affluents and the country in which they take their rise. From the wives of the Sova of Cambuta he obtained a good supply of massango—for he was told that he would have to traverse a waste and unpopulated region—a dozen porters to carry it, and two guides to lead him to the sources of the Cuando. A start was made on the 9th of July, and the next day he made the discovery that

the river took its rise in a marsh. A day or so later he stood by the sources of the Cubangui, and found them to be of a similar character to those of the Cuando. Many of Pinto's followers were ill, and the last of the rations being served out hunger stared them in the face. Two days the guides said must pass before they could reach any villages; but Pinto managed to shoot a gnu, and the negroes gathered some honey in the forest, so that they had food for one day. Following the banks of the river, they reached on the third day the village of the Sova, who ordered them to be supplied with massango. Here Pinto dismissed his guides and the twelve Luchazes, and rested for two or three days. Then having obtained fresh guides and carriers as well as a supply of massango, he started the great body of his followers on the way to some villages on the river Cuchibi, while he with two young niggers committed himself to the river in his indiarubber boat. The aquatic flora of the river he says was something wonderful, apparently blocking up the way like so many other African rivers. Fish swarmed in the water, while thousands of birds chirped and fluttered among the reeds and caves, and flocks of geese fled at his approach. Crocodiles were there in plenty, and a strange kind of antelope, which passes its life in the water and only strays a short distance from the banks in search of pasture. It sleeps and reposes in the water.

After about thirty-six hours on the water, during which time his fast was never broken, Pinto came upon the encampment of his followers, where he spent the next day. Then crossing to the other side in the india-rubber boat, an operation which of necessity took some considerable time, he made a forced march, cutting his way through a primeval forest until, on the 25th of July, he reached the right bank of the Cuchibi. This river, says Pinto, "presents a different aspect from that of the other affluents of the Cuando, at least up to the point I investigated it. It flows through a long valley, enclosed by the gentle slopes of mountains covered with thick wood. This valley is perfectly dry, and not marshy, like almost all those through which flow the numerous streams of South-Western Africa, and which occasionally present a surface of water six miles in breadth. The river winds along, not in curves of short radius like the Cubangui, but in a long undulated line, so that at a distance it seems almost straight. Rich and abundant grasses cover its banks, but stop at the rather steep sides which enclose the river-bed, while the water, of the clearest crystal, courses along and allows the white sand beneath to be distinctly visible. It is entirely wanting in aquatic flora, so abundant in the Cubangui although its fauna is by no means inferior."

The part of the river where Pinto encamped was

entirely unpopulated and the guides informed him that it would take four days' march to arrive at human habitations; but about noon next day Pinto, missing several of his followers, retraced his steps, and discovered some of the delinquents bartering cartridges which they had stolen with sundry Ambuella natives for antelope flesh, fish, and other articles. "On finding themselves discovered," writes our traveller, "they took to their heels, saving two, viz., the pombeiro Chaquiçonde and Doctor Chocaiombe, whom I caught in the act. The latter threw himself on his knees and prayed for pardon; not so Chaquiçonde, who drew his hatchet and made a movement as if to strike me. I wrenched the weapon from his grasp, and gave him such a blow with the haft of it on the head that it felled him senseless to the ground. I thought I had killed him—a mishap which occasioned my mind less pain than the cause which led to it, as it was the first time I had experienced positive insubordination from one of my own people. I turned to the men, who had now gathered about me, and ordered them to carry the wounded man into camp, which they at once did, the sight of the blood oozing from a rather ugly wound rendering them very silent and submissive. On an examination of the hurt I felt convinced that it was not mortal; and wounds in the head, if they do not kill at once, soon heal up. I did what my little skill dictated on behalf of the foolish

fellow, and then called a council of the other pombeiros, to decide what punishment should be awarded for his double crime. The majority of them were for putting him to death, the rest for thrashing him within an inch of his life. As he had recovered his senses, I ordered him to be brought up for judgment, and having harangued him on the heinousness of his offences, ordered him to be set at liberty, with an injunction to sin no more. My forbearance produced a great effect, though at first the fellows had a difficulty in believing that I was in earnest."

Proceeding down the stream, camp was pitched opposite the village where the Sova of the Cuchibi had his residence, on the very day that the last of the rations were served out. The Sova, however, showed great kindness to the strangers, and came to the camp with a concertina in his hand, from which he wrung most excruciating sounds. The Ambuella houses are built on the reedy islands of the river, and have for their foundations stakes driven into the muddy ground. The walls are formed of reeds and the roofs of thatch. They are wretched habitations, badly constructed, affording poor shelter, and have as their sole furniture any number of calabashes. The Sova lived in one of these huts, and Pinto paid him a visit one day. He was received very graciously, the ceremony of introduction consisting in our traveller's interpreter and one of the

king's favourites clapping the palms of their hands together and rubbing their breasts with a little earth, while they repeated many times very rapidly the words *bamba* and *calunga*. They concluded with another clapping of hands, though not quite so vigorous as before. The king was delighted with Pinto's india-rubber boat, but begged him not to sell any to the Ambuellas of the Cubangui, for if he did he and his people were lost.

Pinto also experienced the greatest kindness from two daughters of the Sova, who were indefatigable in bringing him presents ; but for all that his pecuniary resources were fast drawing to an end. Besides the present he was reserving for the sovereign of the Baroze, which chiefly consisted of a small organ having a couple of automatic dolls which executed a dance to the sound of the music, all he had left were a few beads, a little copper for bangles, and a quantity of cartridges. However, he managed to get together a great provision of maize and carriers to convey it, and under the escort of the Sova's daughters he took leave of the hospitable Ambuellas on the 4th of August, and in a short time crossed to the other side of the river. Halting at a place called Lienzi for a short time, during which he went on a hunting excursion down the river to its confluence with the Cuando, he then pressed on until, after a six hours' march through a tangled forest, he came to

the right bank of the Chiculni. Crossing the next day to the other side, it was found no easy task to reach the forest on account of the swampy plain which intervened to the extent of 1,600 yards. Pinto's people occasionally sunk to their waists, his little nigger Pepeco even up to the chin, causing not a little trouble to get him out. Here one of the blacks fell ill and compelled a halt for two days, much to Pinto's alarm, as his provisions were rapidly disappearing in the support of the numerous company of Ambuellas that accompanied him. A little farther on, however, he succeeded in inducing the Sova's daughters to return home, and was left alone with his own people.

On the following day they penetrated into an extensive thorny forest, through which a road had to be cut. It was the most painful and difficult march Pinto had yet experienced. When he arrived at the source of the river Ninda he must have astonished even the natives, for he says, "I was covered with bits of court plaster where the thorns had picked out pieces of my flesh." In this place it was necessary to surround the camp with a strong palisade because of the wild beasts. Pinto must have passed a fearful night, for he had an attack of fever, and the howling of his dogs, the roaring of lions, and the screams of hyenas, which continued all night, certainly would not have a tendency to allay it. Keeping to the right bank of the Ninda and still

proceeding eastward, he came to the vast plain of the Nhengo, "which extends eastwards to the Zambesi and southwards to the confluence with that river of the Cuando," and which lies at an elevation of 8,900 feet above the sea-level. The ground, though dry in appearance, is little better than a sponge. Pinto says that if he lay down on the driest of beds consisting of dry leaves covered with skins, he invariably woke up in a puddle. It was an exceedingly trying time to our traveller. "The dearth of provisions," he writes, "to which we were fast hurrying, the difficulties presented by the country that lay before me, the state of my own health, which I felt was deeply shattered, and the unsatisfactory condition of my people, amongst whom symptoms of insubordination had frequently shown themselves, affected my spirits to such a degree that I was in a constant state of ill-humour. On the 16th of August there came upon me a feeling of despair. I felt myself alone—completely alone; not a man of my whole crew seemed to have a scrap of energy left in him. Besides the tangible difficulties which rose up before me, all the fellows created, or seemed desirous of creating, imaginary ones. I had to interfere in and decide the minutest questions—pure matters of detail with which I ought never to have been bothered at all."

While sitting at the door of his hut in utter dejection the day they were put on rations of maize, Pinto was

greatly cheered by Caiumbuca, the boldest of the B- he
traders, making his appearance. Silva Porta ad
advised Pinto to seek this man, as the best assistant he
could have in Southern Africa, but though he ad
sought him high and low he could find no trace of h- m.
Pinto at once made him second in command and he
march was resumed. Near where they encamp- ed
Caiumbuca said there were some villages where fo- od
could be obtained, but when the messengers went for it
the people fled. The situation was becoming ve- ry
serious, for there was absolutely nothing to eat, and all
attempts at fishing and hunting ended in failure.

Hoping to have better success next day, they press- ed
on for eight hours until they camped near a lak- e.
Messengers, with Caiumbuca himself at their head, d,
were despatched to the villages for provisions, but at
night they returned empty-handed! The people ha- ad
not only refused to part with their stores but ha- ad
shown a disposition to fight. What was to be done?
Pinto could not stand by and simply wring his hands d,
at the thought of his people dying of starvation.
Necessity compelled him to act promptly, and in a way d,
that in other circumstances would not have been justi-
fiable. The next day he gathered all his people about
him not completely prostrated, and, marching at their
head, attacked the chief's compound. After a short
and harmless skirmish the place surrendered, and soon

Pinto's hungry followers found enough to eat. Pinto, like an honest man, however, returned the value of the sweet potatoes taken by force in beads and powder, to the utter astonishment of the natives. At Cauhete, the next place of encampment, food was brought in abundance, and Pinto's messenger returned from the king with a present of six oxen. Not having tasted beef or salt for many months, little wonder that our traveller should eat until he had a surfeit! There was now no lack of food, for, in addition to the king's presents, the people were ordered to supply Pinto with what he wanted gratis—an unspeakable boon, for he had nothing to pay for food.

Leaving Cauhete, Pinto had to pass through two horrible swamps before he reached the right bank of the Nhengo, and following that stream for an hour and a half, stood at last by the Zambesi. Not long after he was sitting on a dais in the house assigned him by the king in his capital, Lialui, receiving the compliments of the court until night fell. In spite of this imposing and apparently hospitable reception, however, Pinto had such a presentiment of evil that he had little sleep that night.

The next day he had an audience of King Lobossi, a young man of about twenty, lofty in stature and proportionately stout, who, after considerable discussion, promised to give him the people he wanted to accom-

pany him to the Zumbo, on condition that Pinto procured him from Benguella all the powder and other things he required. Pinto's people were soon busy erecting an encampment about a quarter of a mile south of Lialui, but he was once more prostrate with a severe attack of fever. When his strength began to come back to him, somehow his spirits became utterly depressed, and he was well-nigh crushed with homesickness. To add to his anxieties, not only did the king send him word that, as he was going to fight, and as Chuculunte was to be the seat of war, the projected journey thither must be abandoned, but the Biheno pombeiros announced their intention of going back to the Bihe, as they did not like "the ugly turn that things were taking." His other followers, however, protested their determination to stand by him. "This unexpected move on the part of the Bihenos," he writes, "restored to me, as if by magic, the cool determination which had abandoned me for days past. As difficulties were gathering all round it behoved me to struggle with them, and I at once threw off the moral torpor which had been insidiously creeping over my mind. I forthwith dismissed the Bihenos, ordered them out of the camp, and delivered them over to old Antonio, the very man I had recommended to Lobos as the chief and guide of the deputation he was to have sent to Benguella. This done, I reviewed my forces and found that they amounted to fifty-eight men."

Matters now began to grow very critical, for Lobossi persisted in refusing to let the expedition go forward, and Machanana, an old friend of Livingstone, came secretly to inform Pinto that the king had been counselled to put him to death. However, through the influence of this sincere lover of the white man, Lobossi changed his mind, and, telling our explorer that all the roads were open to him, offered to furnish him with guides to the Quisseque. Nevertheless, that some were determined to have his life was abundantly proved by subsequent events. He barely escaped from an assegai aimed at him by an unseen hand when out taking the altitudes of the moon one night; and when, after having wounded the would-be assassin, and handed him over to the king and his minister, he lay down to sleep, a young negress belonging to his camp stole into the tent with the unwelcome intelligence that some of his own followers were plotting to have him put to death. By resorting to a little stratagem Pinto succeeded in making Verissimo, one of the traitors, confess the whole plot and return to his allegiance; but it was too late. That same evening, as our traveller was sitting at the door of his hut busy with thoughts of home, his attention was suddenly arrested by a number of bright lights flitting round the encampment.

"Directly I caught a fair view of the field," he says, "the whole was revealed to me, and an involuntary

cry of horror escaped from my lips. Some hundreds of aborigines surrounded the encampment, and were throwing burning brands upon the huts, whose only covering was a loose thatch of dry grass. In a minute the flames, incited by a strong east wind, spread in every direction. The Quimbarees in alarm rushed out from their burning huts and ran hither and thither like madmen.

“Augusto and the Benguella men gathered quickly about me. In presence of such imminent peril there fell upon me, what I have more than once experienced under similar circumstances, namely, the completest self-possession. My mind became cool and collected, and I felt only the determination to resist and to come out victorious. Aided by Augusto and the Benguella men, I dashed into my hut, then in flames, and managed to get out in safety the trunks containing the instruments, my papers, the labour of so many months, and the powder. By that time the whole of the huts were ablaze, but happily the fire could not reach us where we stood. Verissimo was at my side. I turned to him and said, ‘I can defend myself here for a considerable time ; make your way through where and how you can, and speed to Lialui. There see Lobossi, and tell him that his people are attacking me. See also Machanana and inform him of my danger.’

“Verissimo ran towards the burning huts, and watched him till he disappeared amid the ruins. By

that time the assegais were falling thickly round us, and already some of my men had been badly wounded, among others Silva Porto's negro, Jamba, whose right eyebrow was pierced by one of the weapons. My Quimbares answered these volleys with rifle balls, but still the natives came on, and had now made their way into the encampment, where the huts all lying in ashes offered no effective barrier to their advance. I was standing in the middle of the ground before alluded to, guarding my country's flag, whilst all round me my valiant Quimbares, who had now recovered heart, were firing in good earnest. But were they all there? No! One man was wanting—one man whose place before all others should have been at my side, but whom no one had seen: Caiumbuca, my second in command, had disappeared.

“As the fires were going down, I perceived the danger to be most imminent. Our enemies were a hundred to our one. It was like a glimpse of the infernal regions, to behold those stalwart negroes, by the light of the lurid flames, darting hither and thither, screaming in unearthly accents, and ever advancing nearer beneath the cover of their shields, which they brandished in the air and then cast their murderous assegais. It was a fearful struggle, but wherein the breech-loading rifles, by their sustained fire, still kept at bay that horde of howling savages.”

Unquestionably it would have gone ill with Pinto but for a fortunate accident. The rifle of Augusto burst, and his master gave him in its place his elephant rifle and cartridge box. In the box were some balls charged with nitro-glycerine, and when this fearless negro rushed to the front where the enemy were thickest, and discharged his piece, the effect was so unexpected and dreadful that the savages fled howling away. The fighting had ended when Verissimo appeared with a large force headed by Livingstone's friend. The king protested that he was a stranger to the whole affair; but Pinto had his doubts. At any rate, when our explorer left with his wounded and weak followers the people refused to sell them food, and Lobossi asserted that he had none to give. It was thus evident that the king meant to starve them to death, for the country was destitute of game. Fortunately the lakes abounded in fish, and thus the expedition was not reduced to absolute starvation.

After a march of fifteen miles Pinto pitched his camp in a forest on the sides of the mountains of Contongo. In the afternoon Caiumbuca put in an appearance. Not knowing very well what to do, Pinto accepted the excuse, and sent him to ask Lobossi for food, and the people he had promised as escort as far as Quisseque. The day passed, but Caiumbuca did not return, and when at midnight Augusto woke his master

For the purpose of astronomical observation, he had a startling piece of news to communicate. "Sir," said the faithful fellow in a faltering tone, "we are betrayed; our people have fled, and have stolen everything." This was too true. They had slipped away quite noiselessly, for even the dogs never gave a warning bark, and had taken away everything but the contents of the leader's scanty dwelling. "Without delay," he said, "I made an inventory of my miserable belongings, and found I had thirty charges with steel balls for the page rifle, and twenty-five cartridges with large shot for the Devisme musket, which were but of little use. And those were all my heavy weapons." The number of followers he had left was only eight—three men, three lads, and two women. Devoted to him as they were, how was he, with such a small force, and without resources, to reach his journey's end? He was about giving way to despair when he suddenly thought of the time the King of Portugal had presented him with an outfit. Within its case were a box containing five hundred percussion caps, and implements for casting bullets and charging cartridges. Powder and lead now only were wanting. Two tin cases of the former were discovered occupying the Casella sextant in its place in the trunk, and the weights of his fishing-net supplied the latter. Courage and hope now returned to the breast of our traveller, and he resolved to press on.

Succeeding at last in influencing Lobossi, he made Pinto some presents, and provided him with three canoes to take him as far as certain villages on the Zambesi. Only two of his followers accompanied him in the boats, the others followed on foot. Our traveller had heard quite accidentally that there was an English missionary at Patamatenga, and his one great desire was to get to him. Proceeding along the river Liambezi he reached at last the hamlet of Sioma, near to the Gonha cataract. Pinto, who was greatly charmed with the beauty of these falls, turned his back on them with a sad feeling, because he was never likely to see them again. Committing himself again to the stream where it was manageable at Mamungo, he passed the mouth of the Lumbe, which he examined, and came upon numerous other falls, finally pulling up at the confluence of the river Joco. Pinto had been far from well, but it was impossible to be blind to the "islands of exceeding beauty displaying the most picturesque prospects imaginable," which were passed on the way. A severe attack of inflammation of the liver compelled our traveller to rest here a little while, but as soon as possible he pushed on again. Just below the Mambue cataract, however, he was so ill that he thought the end had come. Calling Verissimo and Augusto, he handed them the fruits of his labours, and charged them, if he should die, to continue the journey until

they found the missionary, and delivered the books and papers into his hand. Fortunately, the injection under the skin of strong doses of quinine, to which he had recourse, wrought a decided change for the better in him, and he resolved to lose no time in getting on. Numerous more rapids had to be passed, some of them very dangerous, before the canoes came abreast of Quisseque. Here Pinto was fortunate enough to meet with a servant of the missionary he was so anxious to find. This man, Eliazar by name, showed the traveller great kindness, and assured him that his master, who was a Frenchman, was one of the best of men.

The troubles were by no means all over yet. Lobossi's boatmen refused to go further unless they were paid, and it was only after much persuasion that they were induced to go as far as the missionary. The chief of Quisseque, however, was very friendly, placing two large boats at Pinto's disposal, and making him a present of manioc flour. Catraid, one of his young niggers, saved him the trouble of cooking the flour by devouring every particle of it. A sail of five hours' duration terminated the navigation of the Upper Zambesi; the rest of the journey to the home of the missionary was to be overland.

At Embarira, a village by the side of the Cuando, the very stream the sources of which Pinto had dis-

covered some months before, he learned that there was a white man, not the missionary, on the other side of the river. The chief of the village, however, refused to let him cross until he had paid the boatmen in goods. Having nothing wherewith to pay them, he sent a messenger to the Englishman, in the hope that he would come to the rescue. He came, but he also was without resources, and the only practicable help he was able to offer was to persuade the chief to let Pinto cross with him, on the understanding that he should return the same evening. At the camp of Dr. Bradshaw he met another white man, his companion and helper, for they were zoologists. By their suggestion he wrote to the missionary, begging him to send goods for the payment of the boatmen. The goods were not long in coming, and Pinto obtaining carriers from the chief, despatched his belongings and the ivory to Luchuma with a request to the as yet nameless missionary that he would pay the carriers on their arrival, and grant their master hospitality. He meantime took up his abode in the camp of Dr. Bradshaw, where he enjoyed the wholesome food no less than their pleasant company.

Serpa Pinto was just beginning to feel very comfortable when the carriers made their appearance, declaring that they had not been paid at Luchuma. After repeated clamorous demands and threats they departed, ostensibly for Luchuma, where they were to

seize the goods until paid. They left the chief of Embarira, with a host of natives, to keep guard over the three white men. The latter, with Augusto, retired into one of the huts, and prepared, in case of an attack, to sell their lives dearly. The natives made a raid upon one of the huts, taking from thence Pinto's trunk, with the instruments, which they carried to the other side of the stream. Catraio, however, seeing the state of affairs, stole over, and while the Macalacas were busy watching his master he took from the trunk the chronometers, which were his special charge. This was the second time that this faithful nigger had saved the watches and kept them from running down, to the unbounded joy of his master. In the evening the missionary, François Coillard, arrived at the camp, and assured Pinto that the carriers had been paid in full. The next morning this good man had an interview with the chief of Embarira, when he so convinced him of the dishonesty of the carriers that he apologized for his conduct, and restored all Pinto's property.

M. Coillard passed on to meet Lobossi, and the three white men proceeded at once to Luchuma. The missionary's home consisted of a small thatched cottage, two travelling waggons, and a country hut, surrounded by a strong circular stockade. Madame Coillard welcomed our traveller with great cordiality, and from that time to the moment of their separation, sometime after-

wards, she showed him the affection and solicitude of a mother, although, on his own confession, he did not always give her the respect and reverence of a son. He had no sooner arrived at Luchuma than he fell a prey to another severe attack of fever. Indeed, so ill was he that, again thinking he was going to die, he entrusted his papers to the care of Madame Coillard, asking her to forward them to the Portuguese authorities. Happily, however, he not only had the medical help of Dr. Bradshaw, but the good nursing of Madame Coillard and her niece, and he soon got well again.

After a memorable visit to the great falls of the Zambesi, called Mozi-oa-tunia, Pinto met the Coillard family by arrangement at Dacca. They were alike without resources, and had resolved to travel together as far as Bamanguato. The way lay through "the vast and remarkable desert of the Kalabari, where nature seems to have been pleased to bring into juxtaposition the most discordant elements," and where, accordingly, they had some rough and trying experiences, until, on the 31st of December, they entered Shoshong, the capital of the Manguato.

At Shoshong, Pinto was once more prostrated with fever, and when he got better the urgency of his affairs became very apparent. "I had a long journey before me to reach Pretoria," he writes, "the nearest point where I could hope to procure means from some Euro-

pean authority. I had to pay debts, already contracted for the maintenance of my people, and they were still without clothes ; my negroes, covered with rags, asked me for some yards of cloth wherewith to make themselves decent, and I had no money whatsoever to give them. M. Coillard offered me his purse, but he needed it too badly himself for me to dare to make inroads on it. I wanted to settle scores already contracted with himself, as he was on the eve of undertaking another long journey, and I knew that the means at his disposal were of the meagrest. I was in an unpleasant fix and did not at all see my way out of it." An English merchant, Mr. Taylor by name, came voluntarily to his rescue, providing him with a horse, two hundred sovereigns, and credit among the merchants both in Manguato and Pretoria, if he should require it. Pinto joyfully accepted the generous offer, and, bidding good-bye to his friends the Coillards and others, resumed the desert journey. This time he had engaged a large bullock waggon and a driver who was returning to Pretoria. The journey was long, adventurous, and trying, but at length the capital of the Transvaal was reached in safety on the 12th of February, 1879. Once there his troubles and dangers were practically at an end. He was well received by the English Government officials and others, notwithstanding that he appeared among them in the shabbiest of clothes, he

not deeming it honest to spend the money of his Government on his own personal expenses. From Pretoria he made his way to Durban, and once more looked upon the sea. Thus had he traversed from west to east the great African continent, after having successfully grappled with innumerable difficulties, and having added largely to our geographical and ethnographical knowledge of South Central Africa. Portugal may well be proud that she numbers among her citizens such a brave and accomplished explorer as Major Serpa Pinto.





*NORDENSKIÖLD AND THE NORTH-
EAST PASSAGE.*

THE history of great and successful enterprises will generally present us with at least two powerfully contrasted pictures. There is the going forth to face difficulty, danger, death itself—even the strong heart of the leader, it may be, oppressed with doubts and fears of mutiny, incompetence, divided counsels on the part of those associated with him; and then there is the victorious home-coming, when even those who have been weakest in the fight, by the strangest irony of circumstances, often come in as sharers of the honours and rewards. We recall Vasco di Gama and the great Columbus in former times; we think of Baker, Burton, Schweinfurth, Livingstone, and Stanley in our own. And not the less truly may this be said of the valorous Nordenskiöld, who, by dint

of the most resolute daring, and the most cautious and persistent researches, has opened up to civilization and to trade the great North-East Passage. We picture to ourselves the sailing of that small vessel with her well-selected but seemingly inadequate crew, little or no general enthusiasm manifested in the undertaking, only a few geographers and scientific persons waiting on the quay to see the last of the *Vega*. But very different was the picture to be witnessed when the *Vega* came back; warm and universal was the interest then awakened, intensified tenfold by the long and anxious waiting which had arisen from a very slight miscalculation of one day on the brave leader's part—enough, however, to cause the imprisonment of the *Vega's* crew among the Arctic darkness and the thick-ribbed ice for more than three-quarters of a year. But the telegraph—happy pioneer of brave pioneers!—at last carried the welcome news that Professor Nordenskiöld and his men were safe after all, and had mastered the secret that remained unsolved so long, and would soon be at home. Two hundred steamers went forth to meet the little vessel, and then they followed in her wake. All the picturesque approaches to the capital of Sweden were illuminated, and the city itself was ablaze with light. At an hour when the staid and somewhat phlegmatic inhabitants of that capital are generally in bed, the whole population was in the streets reinforced by

thousands of strangers from far and near. The court, the municipality, the learned professions, the scientific societies, vied with the people in showering favours on the weather-beaten seamen. Fireworks flashed and cannon boomed precisely as in celebration of some great and memorable victory. And a great victory it truly was, though wholly bloodless, and very different indeed from those that in former days did so much to make Sweden at once famous and wretched. And moreover it was a victory in the glory of which all the nations of the earth may share. No remotest peasant labouring intent on his farm in the wild moorlands of the north, no woodcutter rearing his hut in the unreclaimed forests of furthest Canada, no poorest settler on his ranche in the far Australias, but may claim his right to share in the joy of this great triumph. For it opens up a new world to commerce, to civilization; and its influence in promoting the brotherhood of men no one may at present venture to calculate. No such victory as this is gained without long discipline and preparation. When Turner, the painter, on mentioning the price he wanted for one of his smaller pictures, was asked by a vulgar would-be purchaser how long it had taken him to paint it, he turned round with a right earnest look in his face and replied, "All my life, sir." So it might be said of Nordenskiöld and the North-East Passage. He too might have answered any curious

questioner, "It is the work of my life, sir." In trying then, to give an account of Nordenskiöld's great achievement, we find that, in order rightly to understand it, we must trace out the various events and influences which directly prepared him for this great work. In doing this we shall not only be reading of daring and fruitful adventures, but studying a remarkable biography and a most striking and original type of character. The two greatest interests of modern literature will thus in this case be happily combined if we can at all approach to doing justice to the theme.

Adolph Nordenskiöld is the son of a well-known naturalist and chief of the mining department of Finland; and he was born at Helsingfors in November, 1832, so that he is now just fifty years old. His mother—a woman of character so remarkable for fearlessness and firmness that we may well trace some of the famous son's traits to her—came of a respectable but by no means celebrated family, named Harlinann. They had seven children, of whom Adolph was the third. The founder of the family, we learn, was a certain Lieutenant Nordberg, or Nordenberg, who had won distinction in arms in the beginning of the seventeenth century. It was his grandson who changed the name to Nordenskiöld, which signifies in Swedish "Buckler of the North"—a name which has a singular significance viewed in connection with the distinguished

Descendant's exploits. For generations the Norden-skiölds had been known for their love of nature and their ardent desire for travel. A Colonel Adolf Norden-skiöld constructed a valuable museum of natural history on his own private estate at Frugord. His brother, Otto Magnus, was the first who introduced many-bladed saws into Finland, and materially improved the process of woodcutting. This active-minded, practical man was, however, also a philanthropist, and thus put himself into a suspected position alike with the Swedish and Russian Governments, riding his humanitarian hobby into the presence of the Empress Elizabeth. He expressed his wishes for universal peace among all Christian nations, and for this unchristian offence he died excommunicated by the clergy of his native land. His fate, however, did not deter his kinsfolk from following his example. Augustus Nordenskiöld, the nephew of this peace-seeker, not content with having won reputation as a scientific chemist of great merit, associated himself with the celebrated Bernard Wadström in his labours for the abolition of slavery, and died of wounds received from men of colour, while trying to form a colony of free negroes at Sierra Leone. The son of this good chemist and brave though unsuccessful liberator was Nils-Gustavus, a mineralogist of note; and he was father of the famous explorer, Adolphus-Eric Nordenskiöld, who certainly

may claim to illustrate the philanthropy, patriotism, and independent spirit of his race as well as its scientific ardour, enterprise, and devotion. It is because of this that his story has from first to last an aroma of romance, which only adds to the halo of the heroic exploits by which he has become known to all the world.

Adolf as a child was educated solely by his mother, who took the greatest pains with him. While yet a boy he went to a seminary at Borgo, which combined the advantages of a school and a university; but he honestly confesses that he did little good there, and that the influence of the teachers compared with that of his mother was very limited. He and his brother, however, were allowed to remain at this seminary, enjoying considerable freedom of action. Towards the end of their stay a strong feeling of self-respect manifested itself in Adolf, who began to apply himself to his books, and soon won golden opinions from the masters. Probably he might have remained here for some time but for an unexpected incident. Two of the students were flogged for some unnamed offence; and Nordenskiöld, considering this proceeding nothing but an insult to the body of students of which he was a member, abruptly quitted Borgo. This circumstance is most characteristic of Nordenskiöld's independence and decision of character as manifested at many crises of his life. Had



PROF. NORDENSKIÖLD.

he had less of genius and individuality this would doubtless have wrecked all his prospects. As it was, the changes forced upon him only opened up new and favourable spheres of activity, illustrating forcibly once more the old axiom that " Nothing really comes wrong to the able man."

In 1849 he matriculated at Helsingfors, and natural science having now disclosed to him the many charms of nature, he became indefatigable to that subject. He was now happily situated also in being so near to his father as to undertake many scientific tours in company with him.

Nordenskiöld himself tells us :

" Already, before I became a student, I had been allowed to accompany my father in mineralogical excursions ; and had acquired from him skill in recognizing and collecting minerals and in the use of the blowpipe, which he, being a pupil of Gahn and Berzelius, handled with a masterly skill unknown to most of the chemists of the present day. I now undertook the charge of the rich mineral collection at Frugord, and besides, during the vacations made excursions to Pitkeranta, Tammela, Pargas, and others of Finland's interesting mineral localities. By practice I thus acquired a keen and certain eye for recognizing minerals, which has been of great service to me in the path of life I afterwards followed."

Chemistry, mineralogy, and geology occupied his attention more and more. In 1853 he completed his university course with the highest honours, and accompanied his father on a scientific journey into the Ural Mountains, and there he projected a long voyage into Siberia, to which the outbreak of the Crimean War unfortunately put a stop.

On returning home he continued to prosecute his studies, and wrote some works on mineralogy which are still regarded as valuable. He was also appointed Director of the Faculty of Mathematics and Physics, but he did not long enjoy the emoluments of those posts, being cashiered before six months were out for some political talk at a tavern dinner. He himself gives the following account of the circumstances, not without a touch of amusement at the situation :

“ Before I received my second quarter's salary I was removed from my offices in consequence of some political speeches made at the tavern at Thölö on the occasion of a dinner arranged by us on Friday, the 30th November, 1855. The gay circle of youths to which I belonged, instead of celebrating our name-days and birthdays each by himself according to the usual practice, determined to combine all the separate fêtes which occurred during the autumn term of 1855 in one giant entertainment, with military music, floral decorations, &c. It went off pleasantly, and as a fact the discussion

of politics, which was common enough among us, was that day almost wholly forgotten. But we had appearances helplessly against us, and justice requires the acknowledgment that we had before dabbled in politics and sinned so much that our truthful account of the occurrences of that day was everywhere received with distrust. The way in which the thing happened was this. Some time before this Palmerston had made his famous speech about the taking of the Baltic fortresses. Our entertainment was opened by what we considered a well-executed parody of this speech by K. Vetterhoff, on which followed, in the course of the dinner, toasts to the French wines, Crimean fruits, sardines, &c., all in heedless fun and frolic. We had all been concerned a hundred times before in affairs similar or worse, but on this occasion things were on a grander scale—and that was our misfortune. We had a band of music belonging to the Finnish navy, which played tunes to our toasts. The leader of the music thought himself obliged to make a report of the speeches to his chief, with a distinct declaration that the whole appeared merely to be a frolic. The first who were informed of the unfortunate report by the naval officer, an intimate acquaintance of most of us, were those who had taken part in the entertainment. He swore at us for not having chosen a Russian band, which would not have understood any of our nonsense, and said that he was obliged

to let the report go further. But he would delay it as long as possible, in order to give us an opportunity of arranging the affair in the meantime. This seemed at first to be very easy of accomplishment until Governor-General Count Vom Berg got a list of the delinquents, when, struck with surprise, he probably exclaimed, 'Ah! these are all old acquaintances.' "

But this stroke of ill-fortune did not much discourage Nordenskiöld. He managed to raise money sufficient for the purpose, and set out for Berlin, passing through St. Petersburg. This he did without attracting any notice. In St. Petersburg he met his father, who was returning from the Ural. Naturally the old man was much astonished at the new position of affairs; but he took reasonable views and set himself to make the best of the circumstances. He furnished Adolf with letters to the brothers Rose, to Mitscherlich, and to others who ranked highly among the learned men of Prussia. The young man was everywhere well received in honour of his father, and admitted daily to work in the famous laboratory of Rose.

Nordenskiöld returned to Finland in the summer of 1856. All memory of his opposition to the Government had now disappeared, and he was offered his choice between the chair of mineralogy and geology or an appointment to proceed on a voyage of exploration with a handsome allowance for expenses. He chose the

latter, but while he was hesitating the philologist Almqvist was nominated in his stead. A promise was, however, made to him that he should be selected for a similar expedition in a few months. The plan which he then proposed to himself was to make a geological excursion into Siberia, and especially to push on to Kamtschatka; but owing to the terms proposed he was obliged to abandon this project. Before starting he obtained his degree of Doctor from his Alma Mater, and again unfortunately fell into trouble with his old enemy the Governor-General, Count Vom Berg. This time, although he had the University authorities on his side, and was really guiltless of offence, Count Vom Berg wished to have him tried for high treason. He was therefore advised by a prudent friend to fly the country. The Professor was subsequently deprived of his civil rights by an order from the Government of St. Petersburg. Nevertheless, in the autumn of 1858 M. Nordenskiöld was allowed to return to Finland without molestation. In the interval he had joined the expedition of Torell to Spitzbergen, which may be set down as his initiation into Arctic adventure and observation. He was now offered the post of State Mineralogist at Stockholm. Count Vom Berg, however, stood to his post, and difficulties arose about his passport. When finally obtained it was accompanied by an emphatic warning from the Governor to return no more; and the Russian Minister at Stock.

holm received orders never to affix a *visa* to his passport should he contemplate doing so. That order remained in force till 1862, when Count Vom Berg was deprived of his Governor-Generalship, and from that date the Professor has been free to visit his native land without fear or risk. In 1867 he married Countess Anna Mannerheim, a Finnish lady of high rank, but all did not go quite so merry as a marriage bell in outward matters.

Being now desirous of establishing himself at Helsingfors, he became a candidate for the chair of mineralogy and geology, receiving the unanimous support of the academic council. M. Daschkof, Russian Minister sent for him at Stockholm, and said that he should be at once nominated if he would renounce all interest in Finnish politics. Dr. Nordenskiöld, however, refused to give any promise to that effect. The diplomatist then appealed to the newly married wife. "Monsieur," she said in French, "Mon mari est très décidé." There ended the negotiation, and he was not named. It is hardly surprising that Professor Nordenskiöld should have subsequently obtained letters of naturalization as a Swedish subject. He sat and voted in the Chamber of Nobles during the last two Assemblies of the Swedish States, and from 1869 to 1871 was Liberal member for Stockholm.

It was in a manner by accident, and through a cha-

characteristic exhibition of unselfish friendship, that his attention became particularly directed to the Arctic regions. On the death of a colleague who had undertaken the leadership of a scientific expedition to Spitzbergen, he felt bound to fulfil a promise exacted from him of stepping into the place of his friend, although at this time he had only been married a few months, and had, in his own view, permanently settled down to his duties at Stockholm. His first approaches to the seas north of Siberia were cautious and unambitious. The first voyage was made in 1872-73, and it can hardly be said to have been successful, save in the way of illustrating the aptitude and the indomitable resolution of Nordenskiöld. Mr. Leslie in his admirable volume gives a very faithful account of it, and of the terrible sufferings endured while the two ships, the *Polhelm* and her ally were shut up in the ice.

“The position was most heartrending. The Swedes numbered sixty-seven men, and it was ascertained that by reducing the rations to two-thirds the provisions might be made to last till relief could come from Sweden. To refuse help was impossible, but the attempt to feed one hundred and twenty-five men with provisions which were too scanty for sixty-seven could scarcely have but one result—to involve the whole in a common fate. From one quarter, however, help seemed possible. Captain Clase had brought information that at Cape

Thordsen, in Ice Fjord, there was a stock of provisions. It was accordingly proposed to the walrus-hunters that a number of them should attempt to reach Cape Thordsen, either by land or sea. To this they agreed. But if a third should go and succeed in reaching their destination, the number of those left behind would still be too great. There was little to be hoped for from hunting. Perhaps in their extremity the reindeer moss might be converted into a substitute for bread. The Swedes did not conceal from themselves, nor from the walrus-hunters, that their prospects were exceedingly gloomy, and the result beyond calculation. But the requirements of reason and humanity," says the narrative, "were met. It remained to us all only to meet our fate like men, with trust in the guidance of a higher Power, and with vigorous efforts on our part to endeavour to conquer our difficulties."

"A council was held by Nordenskiöld, Von Kusenstjerna, and Palander, and they agreed to send to the captains of the imprisoned vessels a document promising them all the assistance in their power. This document was first read to the six men who had been sent as a deputation, and the reading of it caused a gleam of hope and satisfaction to spread over their countenances. They left on the 1st October with hearts visibly lighter than when they arrived.

"As misfortunes never come single, the storm of

the 16th September, and the shutting in of the vessels consequent upon it, was soon followed by another, which was fatal to the carrying out of the original plan of the expedition. During a violent snowstorm, while the four Lapps were drinking in their tent, the reindeer made their escape and were never seen or heard of more. The storm prevented the sound of the bells which some of them bore from being heard, and their footprints in the snow were immediately effaced by the furious blast. The Lapps were exceedingly grieved at what had happened, and declared their willingness to do all in their power to recover the runaways. But not the slightest trace of them could be discovered either then or afterwards. The only supposition that could be hazarded was that they had perished in the crevasses of the inland ice. One, indeed, returned after a week's absence quite unexpectedly, with a large gaping wound in his back, supposed to have been caused by a piece of rock rolling down some mountain side. The rein was tied to a corner of a house and fed with reindeer moss. The wound was washed and covered with a piece of reindeer skin and speedily healed. The loss of the reindeer was not only regretted as deranging the plan of the expedition, but as depriving it of a supply of fresh meat—of the greatest importance if scurvy should break out.

“On the 1st October the building on land was

occupied, and next morning, Palander, after a short religious service, addressed his men mustered in the hall, reviewing the occurrences that had taken place, telling them that on their behaviour depended the saving of many lives from death by starvation, impressing on them the necessity of patiently submitting to unavoidable privations, and of carefully observing the winter regimen that had been fixed upon, on which observance a fortunate issue in great part depended, concluding with 'God save king and country!' in which all joined with one accord. All were now busy in getting their new dwelling in order, and the bustle was so inspiring that the merry jests and salvos of laughter could scarcely have been believed to come from men whose prospects of surviving the winter were exceedingly doubtful.

"Soon after the removal two wild reindeer were shot. These appeared colossal when contrasted with those of the tame reindeer to which the Swedes had been accustomed. They were reins in winter dress. The whole body was covered with a very close winter coat of hair, several inches thick. The head, nearly indistinguishable from the neck, was short and thick, with broad nose, and eyes only visible on careful scrutiny. The trunk appeared shapeless, and the legs short and clumsy. This peculiar shapeless appearance is owing not merely to the coat of long hair, but also

to the thick layer of fat by which at this season the whole mass of muscle in the rein is surrounded. It is indeed surprising how this animal can collect such a mass of fat in Spitzbergen, where the vegetation is so scanty, and the summer is so short. In spring, even in the end of June, they are only, as people say, skin and bone; but in autumn, by the end of August and throughout September, they resemble fat cattle, and have their flesh so surrounded and impregnated with fat that it is for many nearly uneatable.

“Other three wild reins were soon after shot by the Lapps when out searching for the tame reindeer. They saw no other animals but some ptarmigan, a mountain fox, and an eider.

“On the 22nd October, Palander, with five companions, started on an excursion, with the view of visiting the imprisoned Norwegian vessels. They took with them an ice-boat, a sledge, and provisions for fourteen days. On the third day they reached Grey Hook, and found four of the frozen-in vessels lying close together near the beach, with a close broad belt of blocks of ice, five or six fathoms high, thrown up on a shallow; beyond this the ice was of comparatively inconsiderable dimensions. The walrus-hunters were of opinion that even if storms during winter should break up the rest of the ice, this belt would withstand them all, and not be dispersed till the summer sun exerted

its consuming power upon it. Before then they thought the vessels could not be liberated. On the 17th October, seventeen men from the vessels' crews, taking a boat with them, had gone over the ice, hoping to find open water at the Norway Islands. In that event they intended to proceed in the boat to the Ice Fjord, and take up their quarters in the house that had been built at Cape Thordsen and was now unoccupied. The men who remained stated that their provisions would not last longer than to the middle of November, and asked to be allowed to join the expedition a fortnight sooner than the time agreed on, promising to leave a fortnight earlier in spring, when they might more easily support themselves by hunting than in the dark month of November. To show how unusual the state of the ice was, it may be stated that Mattilas, the Spitzbergen veteran, whose forty-second visit this was, in every previous visit had returned to Norway in autumn, and this notwithstanding that he frequently started on his homeward voyage later than this year. In 1871, for example, he did not leave North-East Land till the 16th October.

“ The party left Grey Hook on the 25th October, and reached Polhelm (for so the settlement on land was called, after the ship) on the 26th, making the journey homeward in fifteen and a half hours, the outward journey having occupied twenty.

“ Winter began to set in now with severity. The flocks of birds had gradually diminished in number ; some eider ducks, whose young were not sooner strong enough to undertake the journey southward, being the last to leave. They maintained themselves in a lagoon, at the bottom of Mussel Bay, which, in consequence of the strong current, was still partially free of ice. By the end of October the only winged creatures visible were a few guillemots, which now and then were seen flying singly over the bay, coming from the north, where probably every opening between the ice-blocks had not yet been frozen over. They began, however, day by day, to be more rare. Occasionally there was heard the cry of an ivory-gull, which,” says the writer of the narrative, “ though not melodious, was pleasant to us, because it was a token of life, showing that we were not altogethor deserted, and because it broke the silence which had begun, and which, the seldomer it was broken, was all the more remarkable and impressive. The temperature now became pretty steady, the thermometer in general showing about 20° C. to 4° F. The 18th October was the last day for four and a half long months on which a glimpse of the sun was visible. Reckoning for refraction, the sun should have been visible till the 20th October, but the mountain chain to the south of Mussel Bay cut off seven days. On the 26th October

artificial light was required the whole day long, but out of doors it was still possible to distinguish one's way.

“The long, dreary polar night having thus set in, it was of the greatest importance that the resources at the command of the expedition should be husbanded in the best way possible, and every precaution taken to preserve the health of its members. The first question was that of food. When the *Polhelm* left Sweden there were on board provisions for twenty-two men for eighteen months. The *Gladan*, having on board two officers, two subordinate officers, and twenty-one seamen and boatmen, had provisions for about six months on leaving Sweden. The steamer *Onkel Adam*, with twelve persons on board besides the captain, one of whom was a stewardess, Amanda, had when she came to Spitzbergen, in September, provisions for only a few weeks. These were supplemented by the purchase made by Captain Clase from the Ice Fjord Company, which included about six months' provisions. It was resolved to give the *Onkel Adam* in addition, from the *Polhelm's* stock, a certain quantity of provisions, chiefly preserved, as only a small quantity of these could be obtained at Ice Fjord. The crews of the *Polhelm* and the *Gladan* were regarded as a unit. In the end of September a calculation had been made and a like ration fixed on for the crews of both vessels, to be in force from the 1st October. This was of course con-

siderably smaller than that which had been originally settled on."

Professor Nordenskiöld himself thus supplements the details of Mr. Leslie regarding this voyage, in which he duly celebrates the deep interest and unceasing liberality of Mr. Oscar Dickson, the Gothenburg merchant, who has done so much for Arctic exploration.

"The comparatively unsuccessful issue and the heavy expenses of the expedition of 1872-73 by no means diminished Mr. Dickson's interest in such undertakings. On the contrary, these were perhaps the reasons why he, shortly after my return home, declared himself willing to 'go on.' A new Arctic voyage was projected to the Kara Sea and the mouths of the Obi Yenissei, and we started from Tromsö at Midsummer, 1875, in a small sailing vessel. I was on this occasion successful in almost completing the programme which had been arranged before our departure—a circumstance of rare occurrence in the history of Northern voyages of discovery. We came here to a new, previously untouched field of inquiry, and succeeded in bringing home exceedingly numerous contributions to our knowledge of the flora and fauna of the region we visited. I made my way without difficulty in my little sailing vessel to the mouth of the Yenissei, and thus inaugurated, as I hope, a new

and important route for the commerce of the world. From the mouth of the Yenissei the vessel was sent back under charge of Docent Kjellman to Norway, while, in company with Docent Landström, Dr. Stuxberg, and three sailors, I ascended the river in a nordland boat, which we had taken with us for the purpose to Dudino, where we fell in with the steamer. From this point we continued our journey by steamer to Yeniseisk, and then overland by Ekaterinburg, Moscow, Petersburg, Helsinfors, and Abo to Sweden. During this journey the Swedish *savants* were received, in large cities, with fête after fête, in consequence of the enthusiasm with which the foremost geographical and commercial circles in Russia hailed the prospect of a sea-route between Siberia and Europe."

And here it may not be out of place to insert a few sentences on the geographical position of the Yenissei and of the country lying around it, as being essential to the comprehension of much that is to follow. The river Yenissei divides Siberia into two distinct parts. That to the west of it is watered by its affluents and the Obi. It contains the towns of Tobolsk, Omsk, and Tomsk among others. The railway between Ekaterinburg and Perm has brought improved means of communication to within a short distance of Tobolsk, and both the Irtysh and the Obi rivers being navigable, a country as large as European Russia has therefore been



NEARING NOVA ZEMBLA.

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opened up for colonization. What has been done to the south of this region in Semipalatinsk should suffice to show how much could be accomplished in the more promising country lying northward on the banks of the Irtysh. The second part to the east of the Yenissei is watered by the Lena, the Amour, and their tributaries, and is considerably larger than the first. It contains, among others, the towns Irkutsk, Yakutsk, and Kiachta. A much larger portion of its surface is uncultivated than is the case in West Siberia, but there can be no doubt that it has the greater natural wealth of the two. Not to speak of the celebrated mines of Nerchinsk, the whole vicinity of Lake Baikal is a reservoir of coal, lead, iron, and other precious metals. The trade of Kiachta is the greatest in Siberia. That town is the key of the caravan route to Pekin. The overland trade which is, and has been for a hundred years, carried on between China and the cities of Russia in Europe, all passes from Maimachin, the Chinese frontier town, to Kiachta, and thence through Siberia to Moscow and Nijm Novgorod. It is the one trade avenue of which Russia possesses undisputed possession. The cost of transport is so great, however, that no solid benefit is derived from the monopoly, and several generations must pass away before the two thousand miles that intervene between Orenburg and Kiachta will have been bridged by means

of either a railway or steam tramway. The first essential for the promotion of the welfare and material prosperity of Siberia is certainly the improvement of the means of communication, and the great rivers which find their origin in the Altai, and make their way to the icebergs of the Arctic Ocean, afford the most promising and the most economical mode of attaining the objects that are desired.

Nordenskiöld undertook voyages to the Obi and Yenissei in 1875 and 1876. These, though full of incident and fruitful of result, were really but preliminary and experimental trips. He was collecting data concerning the movements of ice and water, the climate, and other particulars. He was undismayed by three centuries of failure, or by the constantly-reiterated accounts of the several explorers that by sledge and boat have traced the desolate coasts of Siberia, of masses of ice choking the bays and piled up against the headlands for thousands of miles. He knew that the way was beset by unnumbered rocks, shoals, and quicksands; that there were powerful currents of unascertained strength and direction to contend with; that the actual outline of the shore on his lee was in many places unknown; and that it was throughout bare of human life and means of sustenance for a shipwrecked crew; while, on the other hand, the Frozen Ocean stretched away illimitably. He

knew also that, though furnished with the best modern means of progression, recent Arctic exploring ships had had to be content with penetrating a few miles or leagues further than their predecessors, and that in the opinion of many the limits of practicable discovery had already been almost attained. Nevertheless, he arrived at the belief that the "North-East Passage" was possible, and ought to be attempted. The quantity of water brought down by the great Siberian rivers during the autumn floods was, he calculated, sufficient to float away the masses of ice from the neighbouring coasts, and that then was the time to slip through from the Atlantic to the Pacific.

The little band of comrades whom he gathered round him — Lieutenant Palander, MM. Kjellman, Stuxberg, Almquist, and Nordquist, the scientific staff of the expedition—and his munificent patrons, the King of Sweden, Mr. Oscar Dickson, and M. Sibiriakoff, shared his hope, and were willing to aid him in his determination to see it put to the test. All necessary arrangements were made with decision and spirit, and with Captain Palander in command, the *Vega* set sail from Tromsö on the 4th June, 1878.

The *Vega* had originally been a whaling vessel, but was now fitted up with a steam-engine and screw, and all the appurtenances necessary for an Arctic expedition, and provisioned for more than a year. She was accom-

panied part of her course by three other vessels, whose business was to convey coals and stores to points, as arranged. The cargo of the *Lena*, which was intended to go farthest, consisted of sixteen months' provisions and coal. The brave navigators passed through the straits which separate Nova Zembla from the continent, entered the Kara Sea towards the end of July, and anchored at Chaborova (Jugor Strait) on the 30th of the same month. This strait separates the island of Vaigatoh from the north-east coast of European Russia. There the members of the expedition found a tribe of Samoides, a still half-heathen and barbarous people, who live by fishing. They possess a great quantity of reindeer, and trade in skins, furs, feathers, and corn with the Russians, in exchange for the salt necessary to cure the fish which constitutes their chief nourishment.

The *Vega* navigated the stormy and dreaded Kara Sea under favourable circumstances. The water of this sea is partly salt and partly fresh, and comparatively shallow, especially towards the Siberian coast. During winter it is probably covered with an uninterrupted field of ice, which breaks up in spring and melts altogether in summer. The many currents in this sea communicate a whirling motion to the masses of broken ice, and this motion causes vortices dangerous to ships, but in July and August the sea is

remarkable for calms. The *Vega* found open water, and, impelled by a strong breeze, she reached Port Dickson in three days. Port Dickson is a large harbour in the island of that name, which was given it in honour of Dr. Dickson, at whose almost sole expense the Swedish expedition was fitted out. This island lies opposite the mouth of the Yenissei, one of the largest rivers of Siberia. Port Dickson is accessible from several sides, is a safe harbour, with an excellent sandy bottom, its shore spacious enough for the construction of quays, edifices, &c., the stone for which would be afforded by the rocky islands which surround the harbour, and sweet water is to be found in abundance. Here the *Vega* stayed four days to examine the fauna and flora. Many bears approached the ship, and one weighing about five hundred and sixty pounds, and eleven feet long, was killed.

On the 10th of August the *Vega* left Port Dickson and entered a region hitherto unknown to the expedition, passing between the island of Taimur and the cape of the same name. The navigators remained here for four days in a bay which they named Actinia Bay, on the west coast of the island. The vegetation was poor, birds and animals rare. The island was explored, and a map of it drawn by Lieutenant Bove; the loftiest eminence, three hundred Swedish feet in height, being dignified by the name of Mount Negri.

Pursuing her way, the *Vega* encountered great difficulties off Cape Chelyuskin, anchoring several times near various islands, and constantly surrounded by ice. On the 19th of August the dangerous cape was weathered.

Cape Chelyuskin is the northernmost point of the old World, and, as we are told, forms a low promontory, divided into two parts by a bay. Elevated land, with gentle slopes, runs parallel with the coast from the eastern shore towards the south, while the plains consist of clay-fields, of which some are nearly bare, and split up into more or less regular six-sided figures; and others covered with a mixture of grass, moss, and lichens, resembling that found at the places where landings had previously been effected. The rocks are formed of upright layers of slate, without fossils, but rich in crystals of pyrites. At the extremity of the cape the slate strata are crossed by great veins of quartz. Animal and vegetable life was meagre. Of birds, some sandpeeps, some species of *Tringa*, barnacle geese, and other ducks were seen: a single walrus, a few seals, and two schools of white whales were met with. The dredge brought to light an abundance of the lower forms of animal life, besides some specimens of *algæ*. Dr. Kjellmann's researches on the plains brought to light only twenty-four species of flowering plants.

On leaving this anchorage, and steering in an east-

ward direction, in the hope of meeting with a continuation of the New Siberian islands, drift ice was encountered and fogs fell, and the ships had to be worked backwards into open water to seek a new course.

Eastward of Cape Chelyuskin they again encountered a dense fog, and the increasing thickness of the drift ice compelled them to take a more southerly course. Nordenskiöld found the maps of the eastern coast of the Taimur Peninsula erroneous, being about 4° too much to the eastward. The fog having cleared away, the *Vega* was carried by a north-westerly breeze, without the aid of steam, over a perfectly smooth sea.

At the mouth of the Lena river the *Vega* and its consort parted company, the latter steaming up the river to Yakutsk. After an ineffectual attempt to reach the Liakhov Island much impediment was caused by the ice and the shallowness of the water, which occasioned considerable delay. So much was this the case that at Serdze Kamen, about a hundred miles short of Behring Straits, the vessel was entirely enclosed by the ice, and Professor Nordenskiöld and his companions were obliged to take up their quarters there for the winter. This was on the 28th of September, and Professor Nordenskiöld believes that if he had been only two days earlier he would have been able to reach Behring Straits.

The *Vega* no sooner anchored than preparations were

made for an Arctic winter. The decks and poop were covered with snow, so as to prevent the escape of the internal heat. Seven stoves were kept heated within the ship, which besides had channels for the passage of hot air between the double sides of her keel. The explorers and the crew found it possible to resist the cold clothed simply in their woollen jackets and woven jerseys, which they preferred to the heavy and embarrassing furs with which they were provided. An ice-house was erected on the neighbouring coast for the purpose of meteorological observations, and furnished with instruments, table, lights, and a stove on which to heat coffee; the members of the expedition and the crew taking turns at the uninterrupted work. To prevent the possibility of losing their way on passing from the ship to the observatory during the dense fogs which frequently prevailed, they made an avenue of pillars cut out of the ice, and stretched a rope from pillar to pillar to mark the path. Until the increasing depth of the snow prevented such exercise, games of ball and skating were the fashionable amusements. During violent storms, which drove the snow along at the rate of thirty-five miles an hour, it was necessary to remain hermetically shut up within the ship, but when the air was quiet, the cold, though intense, was very bearable. The vessel was frequently visited by the aborigines, a people named Tchuktchis, who must be distinguished

from the so-called *Reindeer Tchuktchis*, who are closely related to the neighbouring *Kerjakis*; the difference between the languages of these several tribes being less than that between Spanish and Portuguese. The true *Tchuktchis* inhabit the coasts of the Arctic Sea, and live by fishing and hunting. They dwell in conical huts, which, in winter, they close hermetically. These huts are lighted by never-extinguished lamps fed with the oil of seals, which gives a brilliant blue light. The flesh of the seal is used for food, one animal serving a family of *Tchuktchis* for about three weeks; when it is consumed, the *paterfamilias* goes out into the cold to hunt another. The floor of the hut swims in oil, and the children roll about on it perfectly naked, for the temperature of the interior is often 85° Reaumur above zero, while outside it is 55° below. The dress of the *Tchuktchis* is reindeer skins and furs, but inside the huts they throw off most of this clothing, the girls and women going about with a scanty skirt round their loins.

From these strange people the expedition met with a friendly reception. Unfortunately, however, none of them could speak Russian or any other language intelligible to the Swedes. Only one boy could count ten in English—a circumstance which shows that the natives have more communication with American whalers at Behring Straits than with Russian mer-

chants. Since then the Swedes have been in daily communication with the natives along the coast, but they have not in a single instance found one of the pure Tehuktchis, who travel far and wide, capable of expressing themselves intelligibly in any European tongue. Lieutenant Nordquist devoted himself to a study of the language, and Nordenskiöld set free Ionsen, one of the walrus-hunters, from all other employment so as to enable him to live as much as possible among the natives, and to become acquainted with their customs and language. The Tehuktche still partly uses implements of stone and bone, and his features have an unmistakable resemblance both to those of the Mongolians of the Old World, and those of the Eskimo and the Indians of the New.

The crew of the *Vega* entirely escaped that scourge of the North, scurvy, being provided with fitting food and constantly diverted by the visits of the natives.

Six hundred miles from Behring Straits the remains of huts were found, similar to those discovered by Humbert and Melwin at other places; a sign that these coasts have sometimes been inhabited. It is supposed that a chain of islands connects Spitzbergen with Siberia, for reindeer have been found at Spitzbergen marked in the manner usual with the natives of Siberia, and the reindeer is an animal that swims with difficulty.

In her winter quarters at Cape Serdze the *Vega* was, as it were, astride between two oceans — one frozen, the other warm ; the barometer showed rapid variations in the temperature of the water : in the course of a single day it rose from 28° to 82°. By this inequality of temperature the warm current is compelled to flow northward, the cold current in the opposite direction. The American whalers take advantage of the warm current to sail from San Francisco to the northern fishing-grounds.

But the Siberian waters are now almost empty of true whales ; on the other hand, a smaller species is found, and numbers of bears, reindeer, and seals on the continent. The Norwegians yearly catch a quantity of seals, valuing about eighty millions of francs. During the winter sojourn of the *Vega*, one of the aborigines, going to visit the vessel, encountered a bear, and attacked it with his knife and lance. He wounded it in the mouth, upon which it turned on him and bit off his right hand ; but he succeeded in killing the savage beast with the lance in his left.

The members of the expedition made several excursions into the interior. The months passed rapidly, the last alone seeming rather long. It was not until the end of May that the ice began to melt, but no sooner did the inhabitants of the *Vega* become aware of its fragility than measures were taken to break it up

so that free spaces of water were opened around the ship. A strong breeze springing up from the south at last liberated the sturdy little vessel from the ice, and on the 18th of June, 1879, at 8.30 p.m., she set forth full steam towards the east. Two days later, with flags flying, the *Vega* passed the easternmost point of Asia, sailed down Behring Straits, and in the evening of the same day, the 20th of July, cast anchor in the bay of San Lorenzo, which island is inhabited by a mixed population of Tchukchis, Esquimaux, and Samoides. The expedition afterwards touched at Port Clarent, on the American coast, whence they sent news of the success of the grand undertaking to all the world. They had also visited the grave of Sir John Franklin, and placed upon it the few flowers they had been able to pluck in those desolate Arctic regions.

On the 2nd of August the *Vega* anchored at Yokohama. Early in January, 1880, the now illustrious navigators passed through the Suez Canal, touched at Alexandria, and spent a few days in Cairo, and arrived in Naples—the first European port they had seen since the summer of 1878—on the 14th of February 1880.

The *Vega*, which in November, 1878, disappeared from view round the North Cape, within a few days' sail of our own shores, in January, 1880, comes to sight again off the coast of Japan, in the Eastern seas. She has returned home round the southern shores of Asia and

by the Suez Canal ; and has thus the honour of being the first vessel to circumnavigate the Continents of Asia and Europe. On this unprecedented voyage of twenty-two months she twice crossed the Arctic Circle and twice the Equator. Professor Nordenskiöld, by dint of careful study, much experience, and resolution, has thus turned "impossibilities" into possibilities, and has attained what for more than three hundred years has baffled all the efforts recurrently made, since the melancholy failure of the first expedition under Sir Hugh Willoughby and Chancellor. English, Dutch, Danish, and Russian expeditions had entered on the task, only to retire from it in discomfiture, if not in disgust—at least the reports of the travellers became less and less favourable as time went on, the Academician Von Baer, in 1837, expressly declaring that the yet unexplored Kara Sea was nothing but an "ice-cellar ;" while Pachtusov, who started in 1832, with the intention of penetrating to the Obi Strait and the Yenissei river, returned, after wintering in Nova Zembla, with no results, so far as the main object was concerned. The benefit of a North-East Passage was so evident to Russia that no effort was spared to secure success, which has, however, eluded all the Russian explorers, and fallen to a Swede. It is possible, indeed, that a drop of bitterness may for this reason have mingled with the satisfaction with which Russia will regard

the successful accomplishment of the *Vega's* mission. Russia, more than any other country, is interested in, and will benefit by, the results of Nordenakiöld's brilliant achievement. Hers might have been the honour and the praise of this exploit, had her rulers not chosen to act so foolishly and despotically. And as often happens in such cases, with some suggestion of the irony of Providence, the man to whom success has fallen was, on the whole, less concerned for the results that the mass of mankind will most value and appreciate than some of those who had gone before him. Mr. Leslie, of Aberdeen, to whom we are indebted for a graphic account of Professor Nordenskiöld's Arctic voyages, with its very succinct closing chapter, outlining the facts connected with the discovery of the North-East Passage, writes thus in his preface :

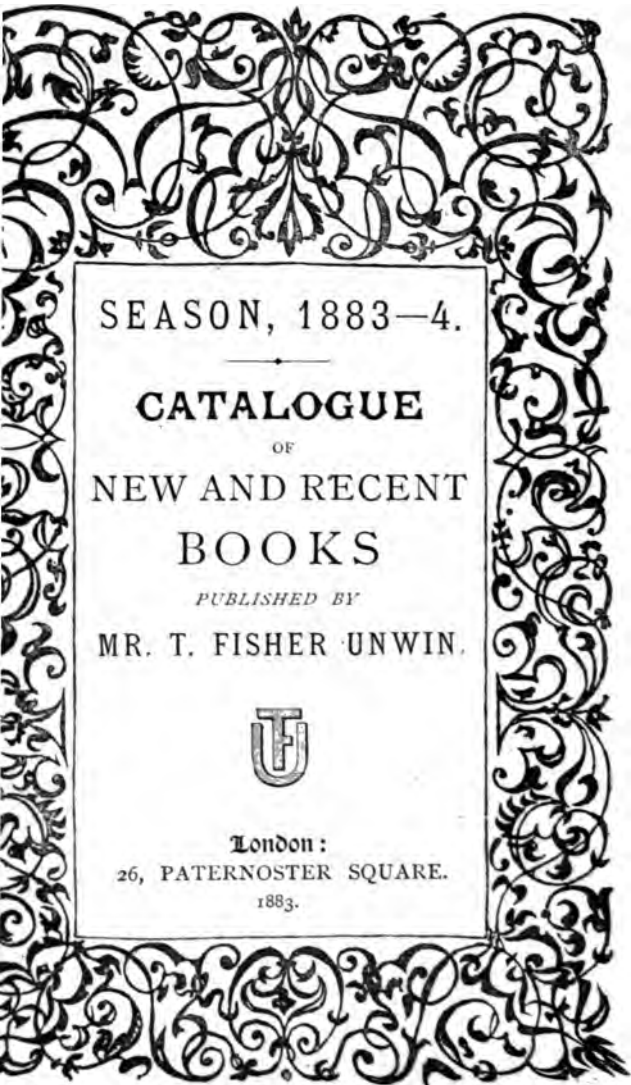
“ Professor Nordenskiöld's Arctic experience extends over a period of twenty-one years, and more than half that time has elapsed since he carried the flag of his country to the highest latitude that has been reached by a vessel in the old hemisphere. In opening up communication by sea with the great Siberian rivers, he has rendered a service of incalculable value to commerce ; but he would doubtless prefer that his fame should rest on his contributions which have been made to our knowledge of the past history and present condition of our globe, by his own scientific labours and

those of his colleagues. An accomplished and skilful mineralogist and geologist, Professor Nordenskiöld has examined, on Spitzbergen alone, more than a thousand English miles of rock sections, and in all his expeditions he has been accompanied by a staff of naturalists and physicists, who have made thorough and comprehensive scientific surveys of the regions they have visited, and, by their collections, have made the Swedish museums the richest in the world in objects of natural history from the North Polar Basin."

That Professor Nordenskiöld's success is not the result of favouring circumstances merely, or of "luck," but rather of knowledge, skill, and determination, is thus very evident.

Siberia has been declared by M. Ferdinand de Lesseps to be the richest country of the whole world in respect of the produce of the animal, vegetable, and mineral kingdoms. Nor will this estimate appear much overdrawn when we consider the abundance and variety of which Siberia is capable of supplying—gold, silver, copper, iron, graphite and coal, fossil ivory, timber from boundless forests, wheat and other vegetable produce from illimitable plains of the most fertile soil; in course of time even wines from the warm southern regions, firs from the cold region, wool, tallow, and meat from the grassy prairies, the meat preserved fresh by simple exposure to the severe cold of winter; and finally, fish *of the finest quality in extraordinary numbers.*

The successful journey of Professor Nordenskiöld thus serves to give more practical significance to the lessons that may be deduced from considering the growing wealth and improving prospects of Siberia. The great rivers have acquired a fresh value to the inhabitants of that country, because they enable them to send their produce to the sea—that sea which had ever before been an iron barrier both for them and for those who ventured into those waters from without. But it has now been conclusively shown that by the exercise of a large amount of skill that barrier can be pierced. For nearly three months in the year the barrier is no barrier, and thus sufficient time is obtained for a well-appointed steamer to make the journey to the mouth of, or even for some distance up, these rivers, take in its cargo, and return to London or any other European port. It is true that the ship must be properly equipped for the adventure; but that is a very small drawback. In the course of time, should the trade prosper, as there is good reason to believe it will, there will certainly be sea-ports worthy of the name on that solitary northern shore. The resources of Siberia will be developed, and the surplus productions, not only of Russian territory, but also of Chinese, will seek the new vent that has been provided for them.



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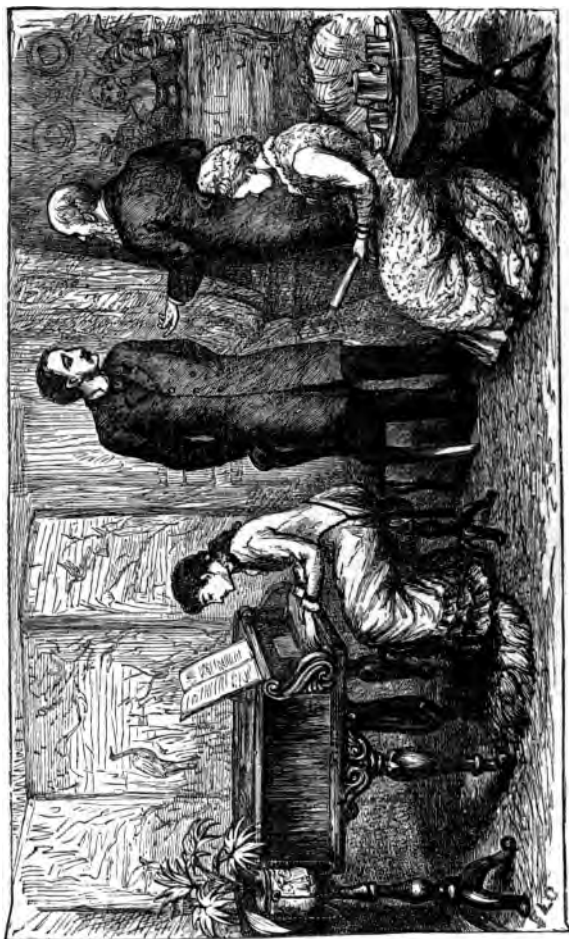
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